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CATALOGUE OF 621 STARS.

PREPARED BY PROF. T. H. SAFFORD.

EXTRACT

FROM THE

REPORT

OF THE

UNITED STATES AND MEXICAN BOUNDARY COMMISSION,

1892–1895.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1898.

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CATALOGUE OF 621 STARS,

AND

AUTHORITIES FOR THEIR PLACES,

PREPARED FOR THE USE OF THE UNITED STATES AND MEXICAN BOUNDARY COMMISSION IN ITS SURVEY OF THE BOUNDARY FROM THE RIO GRANDE TO THE PACIFIC OCEAN, 1892-1895.

By PROF. T. H. SAFFORD.

[Extract from Part II, Report of the Commission.]

INTRODUCTION TO THE CATALOGUE.

[By T. H. Safford.]

This introduction is briefer than it would have been if I had not been taken suddenly and seriously ill when just completing the preparation for press.

1. *Selection of stars.*—The pairs were selected for the stations with especial reference to avoiding doubtful positions. The proper motions are the doubtful element owing to deficiency of old authorities. The best pairs then are those contained in Auwers' Bradley, and also observed very lately. The rejected stars were those which when data were collected, were found not to have been lately observed; when no good early authority was at hand.

2. *General basis.*—The system of the Berlin Jahrbuch (Auwers's) was adopted. This is quite generally employed as a standard by many of the best modern observers. It is fortunately very near that of the American Ephemeris (Boss's), but is rather farther north on the average, a few hundredths of a second only for 1892. The Jahrbuch system agrees still more closely with the Pulkova Catalogue for 1885, which has reached me since the computations were closed. This catalogue is based on an entirely independent investigation, with newly graduated circle and new constants of refraction.

3. *Precession.*—Struve's were used, as in the principal ephemerides. The terms depending on the cube of the time were taken into account where necessary.

4. *Data employed in compilation.*—All respectable catalogues of 1855 or since, with partial omission of the Radcliffe for 1860. In doubtful cases, the single years of the Radcliffe 1862–1875 and of the Washington observations were consulted; and in all, the latest Greenwich volumes available and the Karlsruhe observations.

Special search was made for prime vertical declinations at Pulkova, Kasan, Gotha, and Washington; and in the other short but very accurate catalogues lately published in the Astronomische Nachrichten.

5. *Proper motions.*—Stars contained in Auwers' Bradley were examined if less than three observations in declination are there given. If indications were found that Bradley's observa-

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tions were inaccurate, they were investigated from all available authorities old and new; but if Auwers' proper motion seemed to be correct, it was employed, as also in case of three or more observations.

Stars not in Bradley were also completely investigated; in this case Piazzi or Groombridge was most commonly the best old authority. The method of least squares was employed in nearly all cases, the few exceptions being those where there were but two groups of nearly contemporaneous good observations. The system on which the proper motions were calculated was intermediate between Auwers and Boss, to agree with those of the Jahrbuch stars which are not in Bradley. The weights were usually assigned on the system employed by Auwers in publications 14 and 17 of the Astronomische Gesellschaft; giving, however, one observation half weight, and unity 2–4. These values were also diminished for the less reliable series. Bradley's own data were taken with weight two-tenths for a single observation, three-tenths for two; for more, as beforesaid, Auwers' proper motions were used without least squares reduction. The final probable errors were estimated on an average scale, where weight = 1 receives probable error $\pm$ 0.5″. This is too large for the best modern observations. Piazzi and Groombridge were allowed weights $=\frac{1}{2}$, no matter how many observations are given in their catalogues. On the whole I think the final probable errors assigned are not too small.

6. *Final declinations.*—The final declinations are brought up by the help of the assigned proper motions and reduced to the Jahrbuch's system by Auwers' systematic corrections or others derived from Boss or other sources and reduced to Auwers'. The Jahrbuch stars were most commonly reduced with the proper motions there given; but more recent observations were added to the material there employed. They were found in the Ten Year Catalogue and in the Pulkova Catalogue of Romberg, besides frequently in others, in addition to the original material.

INTRODUCTION TO THE REVISION.

The systematic corrections on the Jahrbuch system by Professor Auwers published within a short time were applied on the original calculation sheets, for the stars marked A and C in the revision sheets. Stars marked C will require an additional correction of +0.1″ to the declinations on the average owing to the different system by which the proper motions were calculated. Stars marked B have been investigated anew by least squares from all available material using the new systematic corrections throughout. New catalogues have been added in all these cases where such were published after the computations for the main catalogue; especially valuable were Greenwich 1890, year results, the new Glasgow Catalogue (1890), the prime vertical observations at Kazan, and the Cincinnati results reduced to 1900 for the proper motion stars. The following catalogues of fundamental stars received after the revision was nearly completed were not included: The Pulkova system of 1885 and the Madison of 1890. Both these agree closely in general with the Jahrbuch system, and the stars are so abundantly observed in detail elsewhere that the increase in accuracy would not be very considerable. Of course, if the latitudes on the boundary were to be redetermined the case would be different.

The separate values $\Delta\delta$ for stars of Classes A and C are of no special importance except in the few cases where they are more than 0.1″, owing usually to new material; but those for Class B, being derived from a complete new solution by least squares of equations derived from all available material, should be employed in any further use of this catalogue. The chief cause of variation is the change in the systematic corrections for older observations, especially Piazzi's; some rather doubtful cases have had new material.

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Mean declinations of latitude stars.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δδ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
C	1	.....	6.1	0 3 18	+3.08	24 51 35.26	+0.49	0.000	+20.051	−0.015	+0.14
A	2	16	5.2	4 42	3.10	45 28 15.75	.16	−.016	20.049	.018	+.05
A	3	32	5.0	9 1	3.10	19 36 21.60	.18	+.007	20.037	.026	+.10
C	4	.....	6.1	9 34	3.10	26 41 0.03	.28	−.030	20.035	.027	+.03
A	5	52	4.7	11 27	3.11	38 4 55.38	.18	−.007	20.028	.031	−.08
C	6	57	6.8	12 15	3.08	1 5 17.67	.16	+.015	20.024	.033	−.07
A	7	58	4.5	12 41	3.12	36 11 11.01	.21	−.047	20.022	.034	−.01
A	8	60	6.1	13 0	3.14	43 11 29.25	.23	+.016	20.020	.035	+.05
C	9	68	6.5	15 42	3.29	67 13 24.32	.26	−.055	20.006	.041	−.02
A	10	80	5.9	18 50	3.27	61 13 57.04	.17	−.006	19.985	.048	+.06
A	11	87	6.0	19 52	3.07	1 20 29.52	.16	−.011	19.977	.047	−.02
C	12	92	6.5	20 45	3.25	56 2 35.30	.38	+.010	19.971	.051	.00
A	13	109	5.6	24 25	3.15	29 9 21.93	.20	−.057	19.939	.058	−.03
A	14	112	6.1	24 32	3.06	−4 33 15.16	.13	−.009	19.938	.056	+.06
A	15	pr 116	7.0	25 10	3.08	15 26 27.46	.24	+.022	19.932	.058	+.14
A	16	129	5.8	26 49	3.09	6 21 32.29	.21	+.022	19.916	.061	+.01
C	17	142	6.2	29 19	3.08	12 46 37.94	.28	−.054	19.889	.066	+.06
C	18	152	5.6	30 54	3.24	43 53 33.61	.30	+.020	19.871	.072	−.01
A	19	155	4.2	31 7	3.19	33 7 28.98	.16	.000	19.868	.072	+.02
A	20	163	6.8	32 33	3.06	−1 5 51.44	.14	−.025	19.851	.072	+.04
A	21	169	Var.	34 23	3.36	55 56 41.65	.16	−.038	19.828	.082	+.05
A	22	173	5 3	35 16	3.24	38 51 57.29	.24	+.011	19.816	.081	−.19
A	23	180	5.1	36 2	3.32	49 55 12.56	.18	−.003	19.805	.084	+.04
C	24	182	6.4	36 18	3.41	58 9 40.39	.24	−.007	19.802	.087	−.02
A	25	189	5.0	37 30	3.30	46 26 1.33	.20	−.024	19.785	.087	−.03
C	26	197	5.7	38 26	3.31	47 16 20.30	.50	+.033	19.771	.089	.00
A	27	198	4.8	38 42	3.32	47 41 35.26	.16	−.016	19.767	.090	+.04
A	28	211	5.5	40 54	3.17	14 53 10.23	.29	−.050	19.734	.090	+.07
A	29	214	6.0	41 31	3.16	18 59 17.88	.23	+.010	19.725	.091	+.02
A	30	215	4.2	41 37	3.16	23 40 46.57	.16	−.072	19.723	.092	+.03
A	31	219	5.0	42 43	3.37	50 22 44.63	.19	−.015	19.714	.100	−.02
C	32	221	5.9	42 43	3.09	4 43 30.39	.18	−1.15	19.705	.092	+.01
A	33	222	4.6	43 5	3.11	6 59 49.72	.14	−.037	19.700	.093	+.08
A	34	223	5.5	43 18	3.17	16 21 26.68	.23	−.197	19.696	.095	+.02
A	35	228	5.7	44 10	3.58	63 39 33.78	.17	−.018	19.681	.109	+.02
C	36	237	6.4	45 45	3.08	2 47 56.26	.21	−.070	19.665	.098	+.04
A	37	244	5.3	48 35	3.53	58 23 15.79	.23	−.080	19.604	.117	+.01
A	38	247	5.9	48 52	3.16	18 36 9.33	.19	−.070	19.599	.106	+.07
C	39	253	2.1	50 11	3.57	60 7 54.18	.14	−.015	19.574	.122	+.02
A	40	254	5.2	50 14	3.55	58 35 50.14	.22	−.070	19.573	.121	+.06
C	41 foll	.....	5.9	53 57	3.37	44 7 52.68	.32	−.025	19.500	.123	+.02
A	42	285	5.3	56 54	3.27	31 13 27.30	.17	−.020	19.438	.126	.00
A	43	288	4.2	57 23	3.11	7 18 50.43	.17	+.039	19.427	.121	−.03
A	44	307 prec	5.3	59 53	3.20	20 53 40.98	.22	−.015	19.372	.129	+.12
A	45	311	6.4	1 0 14	3.10	4 19 58.96	.19	−.119	19.368	.126	+.04
A	46	321	6.3	2 3	3.30	31 26 8.38	.23	−.033	19.322	.137	+.02
A	47	327	5.7	3 25	3.98	68 12 13.15	.20	−.023	19.292	.167	−.02
C	48	.....	6.8	3 38	3.94	67 12 13.57	.30	+.030	19.287	.166	+.01
C	49	337	5.9	4 11	3.40	41 30 25.47	.24	−.040	19.272	.145	+.03
A	50	338	5.7	4 39	3.84	64 26 39.34	.18	−.019	19.260	.165	+.06
C	51	345	5.2	5 9	3.29	30 51 0.70	.37	.000	19.248	.143	.00
A	52	374	5.9	9 18	3.06	−1 33 6.47	.18	+.220	19.143	.141	+.32
A	52¹	384	5.8	11 7	3.05	−3 4 8.44	.18	−.060	19.055	.144	+.01
A	53	388	5.2	12 14	3.09	3 2 43.98	.18	−.019	19.065	.148	+.02
A	54	394	6.4	13 53	3.94	64 5 29.10	.33	−.045	19.029	.190	.00
A	55	401	5.2	15 9	3.30	28 10 24.53	.25	−.088	18.984	.163	−.03
A	56	404	5.0	15 59	3.50	44 57 45.37	.20	−.005	18.961	.175	+.03
A	57	406	6.9	17 3	3.06	−1 0 52.62	.20	+.002	18.930	.156	+.02
A	58	409	5.8	17 30	3.41	37 9 3.91	.27	+.001	18.917	.170	−.03
C	59	.....	6.1	17 35	3.23	19 54 16.40	.37	−.004	18.915	.165	.00
A	60	416	3.0	18 45	3.87	59 40 25.94	.12	−.036	18.880	.197	−.04
C	61	425	6.0	19 58	3.49	42 53 49.84	.31	−.070	18.845	.182	+.06

* Glasgow position erroneous and now corrected.

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δδ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
A	62	427	5.1	1 20 26	+3.22	18 36 36.48	±0.21	+0.029	+18.830	−0.170	+0.12
A	63	431	5.8	20 52	3.23	18 40 50.88	.23	− .038	18.818	.171	+ .02
A	64	432	5.0	21 12	3.56	44 50 55.86	.17	− .104	18.808	.187	− .26
A	65	442	6.6	23 25	3.63	6 44 10.64	.25	− .057	18.739	.170	+ .18
A	66	441	5.7	23 37	3.57	46 26 59.78	.25	− .042	18.733	.194	+ .02
C	67	446	6.0	24 3	3.23	17 47 49.93	.37	− .000	18.719	.177	− .03
A	68	448	5.0	24 32	3.13	5 35 13.22	.18	− .031	18.704	.172	− .02
A	69	453	3.8	25 42	3.20	14 47 19.83	.16	− .003	18.667	.179	+ .07
C	70	455	7.0	26 14	3.22	16 23 47.55	.30	− .210	18.650	.180	+ .05
A	71	456	5.4	26 52	3.88	58 40 39.21	.13	− .025	18.629	.218	+ .09
C	72	464	6.6	27 38	3.14	7 39 16.52	.22	− .030	18.604	.179	+ .01
C	73	.....	5.9	28 17	3.02	7 34 39.13	.26	− .075	18.583	.173	− .07
C	74	482	5.9	31 4	3.88	57 25 37.45	.34	− .005	18.490	.227	− .05
A	75	487	3.7	31 22	3.65	48 4 51.09	.14	− .111	18.480	.215	+ .01
A	76	492	5.2	32 52	3.58	43 50 11.22	.25	− .003	18.429	.214	− .02
C	77	501	5.8	34 11	3.56	42 45 2.70	.32	− .060	18.383	.216	.00
A	78	499	5.5	34 33	4.55	70 4 36.34	.20	+ .004	18.370	.274	− .04
C	79	.....	6.1	35 17	3.32	25 11 59.94	.23	− .040	18.345	.204	− .04
A	80	518	4.7	35 49	3.12	4 56 27.25	.12	+ .005	18.326	.193	− .05
A	81	523	5.4	36 38	3.25	19 44 35.88	.20	− .658	18.297	.203	+ .02
C	82	525	6.4	37 10	3.74	56 59 35.20	.26	− .050	18.277	.243	− .03
A	83	537	4.4	39 41	3.16	8 36 50.29	.14	− .058	18.185	.202	− .03
C	84	544	6.1	42 16	3.51	37 24 53.57	.19	− .025	18.089	.229	+ .03
C	85	562	6.4	45 56	3.81	50 56 27.46	.40	− .000	17.948	.255	+ .04
A	86	564	3.4	46 38	4.25	63 8 16.52	.14	− .022	17.921	.286	− .02
A	87	569	3.7	46 55	3.41	29 3 8.89	.17	− .231	17.910	.231	− .07
A	88	574	4.4	47 58	3.10	2 39 14.88	.15	+ .020	17.869	.213	+ .03
C	89	579	5.8	49 31	3.53	36 44 52.58	.20	+ .005	17.807	.244	+ .01
A	90	580	5.8	49 44	3.53	36 43 18.22	.22	+ .019	17.798	.245	− .04
C	91	609	6.0	53 39	3.20	11 46 14.23	.22	− .040	17.637	.230	− .03
A	92	611	5.9	55 1	4.37	63 52 5.18	.17	+ .006	17.580	.315	+ .02
A	93	614	5.1	55 7	3.96	53 57 54.46	.19	+ .008	17.576	.285	+ .07
C	94	624	5.5	56 39	3.49	32 45 47.95	.18	− .010	17.511	.256	− .05
A	95	630	5.9	57 32	3.38	25 24 53.34	.24	+ .013	17.473	.250	+ .06
A	96	633	5.8	57 39	3.07	−0 23 32.55	.26	+ .032	17.468	.227	+ .15
A	97	639	6.4	58 16	3.06	−0 51 30.62	.16	− .058	17.441	.228	+ .02
A	98	649	5.0	2 1 58	3.59	37 20 47.48	.26	− .037	17.279	.273	+ .02
A	99	656	3.1	3 7	3.55	34 28 34.36	.15	− .033	17.228	.272	− .06
A	100	661	5.8	4 20	3.62	38 31 46.26	.23	− .004	17.174	.280	− .06
A	101	665	5.8	4 38	3.30	18 59 26.08	.19	− .031	17.160	.257	+ .02
A	102	666	6.8	5 3	3.40	25 25 38.34	.26	+ .001	17.141	.265	+ .16
A	103	667	6.4	5 6	3.49	31 1 1.17	.29	− .020	17.139	.272	+ .01
A	104	668	6.1	6 1	4.61	66 1 4.03	.15	− .004	17.097	.353	− .02
A	105	675	5.3	6 6	3.46	29 47 47.92	.18	− .055	17.093	.272	− .02
A	106	676	5.2	6 27	3.74	43 43 28.93	.26	− .019	17.077	.293	+ .07
A	107	684	4.5	7 17	3.18	8 20 23.61	.16	− .001	17.039	.252	+ .05
A	108	691	5.3	9 33	3.53	32 51 24.10	.20	− .021	16.933	.283	.00
A	109	693	5.8	9 35	3.40	24 32 31.67	.35	− .085	16.932	.273	+ .03
C	110	694	6.6	10 28	4.54	63 55 26.23	.28	− .040	16.891	.365	− .03
A	111	696	6.5	10 29	4.18	57 0 54.32	.29	− .010	16.890	.336	.00
A	112	698	4.3	10 54	3.55	33 20 50.74	.17	− .034	16.870	.287	− .04
C	113	702	7.0	11 55	4.56	63 50 17.55	.35	.000	16.822	.369	+ .05
A	114	707	5.6	12 7	3.32	19 24 4.58	.16	+ .010	16.812	.272	+ .02
A	115	710	5.5	12 41	3.46	28 8 38.02	.23	+ .014	16.785	.284	− .02
A	116	721	5.4	14 50	4.14	55 21 3.50	.20	− .011	16.682	.343	− .09
A	117	732	5.8	16 42	3.07	−1 22 37.43	.21	− .052	16.590	.256	+ .03
A	118	745	5.5	19 2	3.21	10 7 16.37	.17	− .013	16.475	.274	− .03
A	119	744	4.3	20 10	4.85	66 54 59.05	.15	+ .003	16.418	.415	− .05
A	120	757	5.4	21 50	3.50	29 11 12.85	.18	− .085	16.334	.304	− .05
A	121	759	6.5	22 28	3.51	29 26 44.01	.27	+ .066	16.301	.305	+ .02
A	122	760	4.3	22 25	3.18	7 58 32.51	.13	− .001	16.304	.277	− .01
A	123	772	5.6	25 31	3.64	35 40 4.20	.22	+ .014	16.145	.322	.00

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δδ
				h. m. s.	*s.*	° ′ ″	″	″	″	″	″
A	124	786	5.6	2 29 13	+3.62	34 12 57.88	± 0.20	—0.036	+15.950	—0 327	—0.08
A	125	791	5.8	29 23	2.95	— 8 19 53.95	.28	— .071	15.942	.268	— .15
A	126	792	6.7	29 55	3.01	— 4 1 13.55	.23	— .427	15.913	.274	— .15
C	127	795	7.0	31 54	5.46	71 9 38.69	.21	.000	15.808	.499	+ .01
A	128	808	5.6	32 41	3.39	21 29 38.86	.16	— .011	15.765	.313	— .01
A	129	816	5.9	35 19	4.25	54 38 40.68	.27	— .025	15.621	.395	+ .22
C	130	819	6.1	35 23	4.19	53 3 54.50	.35	— .015	15.618	.390	.00
A	131	830	6.3	36 40	3.22	10 16 51.05	.24	— .028	15.547	.304	+ .05
A	132	829	5.7	37 3	3.89	43 50 14.63	.24	— .024	15.526	.365	— .03
A	133	831	4.9	37 7	3.50	27 14 50.02	.17	— .009	15.522	.331	— .02
A	134	844	5.1	39 4	3.26	11 59 27.51	.20	— .069	15.413	.310	— .01
A	135	845	4.2	39 6	3.23	9 39 28.32	.15	— .020	15.412	.307	— .02
A	136	861	4.9	41 29	3.56	28 47 53.48	.23	— .110	15.278	.342	+ .02
A	137	866	5.8	42 20	3.47	24 44 13.58	.28	+ .002	15.221	.336	+ .02
A	138	863	3.8	42 49	4.67	55 26 48.08	.19	— .034	15.201	.419	— .05
A	139	871	4.6	43 46	3.75	37 52 25.40	.21	— .087	15.147	.365	— .10
A	140	885	4.1	46 36	4.21	52 19 11.95	.13	— .009	14.984	.416	+ .05
A	141	.....	7.0	46 51	4.16	50 43 30.36	.37	— .030	14.969	.410	+ .04
A	142	888	5.8	46 54	3.77	37 53 49.75	.20	— .063	14.967	.372	— .05
C	143	892	6.5	47 11	3.33	16 2 31.66	.34	— .075	14.950	.330	— .06
C	144	.....	6.3	49 16	3.94	50 49 27.10	.32	— .030	14.827	.416	+ .10
C	145	914	5.7	52 30	4.05	46 47 15 68	.29	+ .020	14.636	.410	+ .02
C	146	948	5.0	57 26	4.46	56 16 51.85	.26	+ .065	14.338	.442	— .05
A	*147	*957	5.7	59 6	3.51	24 50 4.10	.23	— .013	14.235	.366	.00
A	148	963	var.	3 1 8	3.88	40 32 20.99	.16	+ .010	14.109	.409	— .01
A	149	967	4.3	2 13	4.02	44 26 51.60	.21	— .160	14.042	.423	+ .02
A	150	974	5.8	3 7	3.59	28 39 50.46	.21	— .026	13.985	.382	— .06
A	151	981	5.0	4 19	3.85	39 12 3.34	.21	+ .020	13.910	.411	— .07
C	152	987	6.3	5 26	3.29	12 38 16.49	.24	+ .010	13.840	.353	+ .01
A	153	986	4.3	5 27	3.42	19 19 4.27	.13	+ .005	13.838	.366	+ .03
C	154	991	6.0	6 42	3.18	6 15 13.29	.36	— .010	13.759	.343	+ .01
A	155	999	4.8	8 42	3.44	20 38 37.94	.18	— .070	13.632	.374	— .10
A	156	1,006	5.6	10 31	4.01	43 37 39.13	.23	— .044	13.514	.438	— .03
A	157	1,007	5.4	10 56	4.24	49 49 33.61	.17	— .027	13.487	.464	— .01
B	158	1,017	5.0	11 58	3.74	33 49 37.98	.21	— .002	13.420	.411	— .38
A	159	1,023	5.9	13 29	3.57	26 40 48.27	.27	— .080	13.322	.395	— .01
A	160	1,028	5.0	13 42	3.12	2 58 25.50	.17	+ .110	13.307	.347	.00
A	161	1,041	6.0	15 28	3.13	3 17 10.23	.23	— .037	13.191	.350	— .03
A	162	1,058	4.5	20 19	4.82	59 33 48.15	.14	+ .012	12.868	.544	— .05
A	163	1,099	4.8	28 49	4.24	47 49 57.92	.20	— .038	12.290	.494	+ .08
C	164	1,105	6.6	30 42	4.04	42 13 35.50	.30	— .020	12.159	.473	.00
A	165	1,112	4.4	31 22	3.07	0 3 30.23	.20	— .501	12.113	.362	+ .07
C	166	1,114	6.5	31 44	3.37	15 4 31.54	.32	— .010	12.087	.396	+ .06
A	167	1,111	5.5	32 47	5.15	62 51 58.20	.18	+ .058	12.013	.608	.00
C	168	1,123	5.8	34 6	3.90	37 13 51.21	.27	— .040	11.921	.461	— .01
A	169	1,128	5.9	34 14	3.12	2 42 19.01	.22	+ .019	11.912	.372	— .04
A	170	1,132	5.0	35 32	3.85	33 37 5.00	.26	— .003	11.820	.452	— .01
A	171	1,135	5.5	36 5	3.45	19 21 14.18	.18	— .007	11.781	.412	+ .02
B	172	1,133	5.3	36 36	5.19	63 0 11.80	.28	— .010	11.745	.620	+ .40
A	173	1,138	4.0	37 33	3.75	31 56 44.21	.22	— .010	11.677	.449	— .07
A	174	1,139	4.0	37 51	4.05	42 14 12.35	.17	— .012	11.655	.487	+ .01
A	175	1,140	6.2	37 32	3.55	19 19 23.48	.21	— .034	11.677	.414	+ .02
C	176	1,143	5.9	38 11	3.48	20 35 13.82	.27	.000	11.632	.419	— .02
C	177	1,142	5.9	38 26	4.18	45 20 31.70	.31	— .020	11.614	.501	+ .10
A	178	1,137	4.5	38 58	6.22	70 59 54.94	.20	— .051	11.576	.748	+ .04
A	179	1,158	6.0	39 25	3.06	— 0 38 12.82	.21	+ .012	11.543	.370	+ .22
A	180	1,161	4.9	39 55	3.55	23 36 41.21	.20	— .042	11.504	.429	+ .03
C	181	.....	5.9	41 41	4.12	43 37 44.38	.40	+ .010	11.381	.500	+ .02
C	182	1,192	5.8	43 49	3.59	25 15 10.72	.28	— .110	11.226	.439	— .02
C	183	1,206	6.0	46 59	3.43	17 0 17.90	.19	— .036	10.995	.421	.00
A	184	1,212	5.6	47 22	2.96	— 5 41 3.16	.18	— .007	10.969	.366	— .10

*A close double; —1″ apart: mean of the two.

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δ δ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
A	185	1,214	4.5	3 48 35	+4.43	50 22 55.01	±0.17	—0.125	+10.879	—0.547	+0.09
A	186	1,219	3.3	50 36	4.01	39 41 50.20	.15	— .016	10.730	.499	— .10
A	187	1,228	4.1	51 57	3.88	35 28 47.69	.16	— .0.3	10.630	.484	— .09
A	188 pr	1,238[1]	6.7	54 32	3.58	22 53 48.05	.28	— .016	10.438	.447	+ .05
C	189	1,240	5.9	54 35	3.44	17 53 19.52	.31	— .047	10.434	.433	.00
A	190	1,241	{3.4-4.2 var.}	54 42	3.32	12 11 4.89	.14	— .009	10.426	.418	+ .01
A	191	1,262	5.3	59 59	3.67	27 18 29.44	.24	— .061	10.028	.468	+ .06
A	192	1,266	4.3	4 0 49	4.33	47 25 24.72	.14	— .033	9.964	.553	+ .08
A	193	1,268	6.3	1 7	3.65	37 26 37.25	.27	— .142	9.942	.506	+ .05
A	194	1,279	5.8	4 15	3.64	26 11 54.98	.17	— .037	9.703	.470	— .08
A	195	1,287	4.1	6 58	4.38	48 8 3.33	.19	— .027	9.494	.567	+ .07
A	196	1,302	6.2	9 38	3.40	15 7 47.90	.20	— .010	9.287	.442	— .10
C	197	1,301	4.9	10 7	4.48	50 1 45.36	.22	— .050	9.250	.585	+ .04
A	198	1,322	5.4	13 24	3.89	34 18 19.31	.20	+ .001	8.995	.511	.00
A	199	1,323	5.0	13 44	4.32	46 14 24.47	.22	— .040	8.968	.567	+ .03
A	200	1,328	4.0	13 39	3.41	15 21 58.59	.16	— .030	8.975	.447	+ .07
A	201	1,346	4.0	16 42	3.45	17 17 19.48	.16	— .025	8.735	.456	— .08
A	202	1,350	6.0	17 13	3.43	16 31 28.47	.23	— .032	8.694	.454	+ .03
A	203	1,357	5.3	17 58	3.26	9 12 32.84	.26	— .004	8.635	.434	— .04
A	204	1,364	5.7	19 14	3.81	31 11 40.55	.30	— .116	8.536	.506	+ .03
A	205	1,371	5.9	20 50	3.58	22 45 8.50	.20	— .003	8.409	.478	.00
C	206	1,373	6.0	21 36	3.55	21 22 42.44	.31	— .050	8.348	.474	— .04
A	207 foll	1,382	5.7	23 29	4.73	53 40 31.30	.14	— .009	8.198	.633	+ .10
C	208 foll	1,398	5.8	25 49	4.21	42 49 57.22	.21	.000	8.011	.566	+ .07
A	209	1.414	4.8	29 12	4.14	41 2 31.84	.23	— .024	7.738	.561	— .04
A	209′	1,421	4.6	29 43	3.21	9 56 18.84	.25	— .054	7.696	.446	+ .06
A	210	1,424	5.7	31 25	4.73	53 15 34.46	.17	— .091	7.560	.627	— .03
A	211	1,425	5.7	31 24	4.71	52 51 48.74	.20	— .019	7.560	.639	— .04
A	212	1,442	5.6	34 3	3.33	11 59 5.27	.25	— .022	7.346	.455	+ .11
B	213	1,460	5.7	38 27	3.31	10 56 40.37	.32	+ .007	6.986	.456	+ .13
A	214	1,456	5.6	39 0	4.58	56 33 52.25	.14	— .155	6.940	.683	+ .07
A	215	1,469	3.9	40 6	3.00	— 3 27 11.14	.14	— .002	6.850	.413	— .06
A	216	1,474	4.5	43 19	5.92	66 9 30.08	.12	— .001	6.585	.820	+ .02
A	217	1,491	4.7	44 43	3.26	8 42 51.51	.21	— .031	6.468	.453	— .01
A	218	1,495	4.1	45 27	3.19	5 25 11.73	.16	— .002	6.408	.444	— .03
A	219	1,494	5.8	46 13	4.89	55 4 48.40	.22	— .009	6.345	.679	+ .10
A	220	1,514	3.8	48 38	3.12	2 15 48.09	.13	— .007	6.145	.436	+ .01
A	221	1,528	5.8	51 33	3.67	24 52 58.87	.20	— .049	5.901	.513	— .02
A	222	1,535	6.4	52 57	4.12	39 29 26.13	.27	— .006	5.784	.579	— .13
A	223	1,536	4.3	53 49	5.31	60 17 0.80	.14	— .014	5.711	.746	— .10
A	224	1,540	var.	54 13	4.30	43 39 46.21	.15	— .014	5.677	.603	+ .03
A	225	1,541	3.9	54 56	4.18	40 55 3.36	.15	— .008	5.617	.588	— .07
A	226	1,551	4.8	56 38	3.58	21 26 6.42	.16	— .040	5.473	.504	— .02
A	227	1,558	3.5	58 56	4.20	41 5 16.16	.14	— .061	5.279	.593	— .06
A	228	1,568	5.2	5 1 4	3.54	18 20 58.20	.19	+ .022	5.100	.497	+ .08
B	229	1,572	5.8	1 32	3.65	24 7 18.68	.30	.000	5.061	.517	+ .22
C	230	1,582	6.0	2 40	4.45	46 49 40.17	.26	— .160	4.964	.631	+ .03
C	231	1,601	5.7	5 29	3.44	15 54 41.96	.27	+ .010	4.725	.490	+ .04
A	232	1,614	5.3	8 22	3.90	32 33 43.41	.22	+ .013	4.479	.555	+ .00
A	233	1,627	5.0	11 5	3.92	33 15 29.46	.22	— .154	4.247	.562	+ .05
A	234	1,642	5.4	14 13	5.12	57 26 18.78	.20	— .058	3.979	.734	+ .02
A	235	1,663	5.7	17 19	4.07	37 17 2.05	.21	+ .001	3.713	.585	+ .04
A	236	1,687	1.9	19 20	3.22	6 15 4.52	.16	— .015	3.539	.463	+ .08
A	237	1,681	2.0	19 28	3.79	28 30 56.24	.14	— .180	3.528	.545	+ .01
A	238	1,676	5.9	19 58	5.65	62 58 33.81	.14	— .008	3.485	.816	— .01
A	239	1,730	2.2	26 29	3.06	— 0 22 46.83	.16	— .005	2.922	.443	+ .03
A	240	1,748	4.9	28 53	3.29	9 24 57.10	.20	— .002	2.714	.477	+ .09
A	241	1,766	4.6	30 58	3.29	9 13 53.20	.23	— .305	2.533	.477	+ .07
B	242	1,751	5.9	31 37	6.00	65 38 16.87	.31	— .036	2.477	.870	+ .03
A	243	1,794	1.9	35 19	3.02	— 2 0 0.56	.16	+ .010	2.156	.440	+ .16
A	244	1,797	6.2	37 24	5.05	56 4 12.08	.20	— .054	1.974	.734	.00
A	245	1,837	5.2	42 23	3.68	24 31 50.69	.20	— .010	1.539	.536	+ .01

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δ δ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
B	367	4,526	6.2	13 27 41	+2.84	24 54 27.80	± 0.31	—0.200	—18.603	+0.163	—0.10
C	368	4,536	5.2	29 58	2.68	37 44 8.58	.17	— .015	18.527	.158	+ .02
A	369	.....	5.9	34 35	1.43	71 47 30.90	.19	+ .011	18.369	.092	.00
A	370	4,562	5.6	35 31	2.86	20 30 7.47	.19	+ .020	18.336	.177	+ .03
A	371	4,565	5.7	35 57	3.14	— 8 9 28.52	.14	+ .046	18.321	.195	+ .02
B	372	.....	6.3	37 53	2.57	42 13 6.95	.27	+ .015	18.252	.163	— .15
B	373	4,596	5.7	41 38	2.56	41 37 49.18	.34	— .058	18.113	.168	+ .22
A	374	4,607	2.0	43 17	2.37	49 51 8.64	.13	— .014	18.051	.160	+ .06
A	375	4,618	5.0	44 36	2.83	21 48 1.15	.23	+ .016	18.000	.190	+ .05
B	376	.....	6.2	47 1	2.94	12 41 56.58	.41	— .020	17.906	.201	— .28
A	377	4,649	5.8	49 52	2.22	54 15 35.20	.22	— .017	17.792	.157	— .10
B	378	.....	6.5	54 14	3.10	— 3 1 24.71	.30	— .068	17.613	.223	+ .11
C	379	.....	6.6	55 29	1.67	65 25 6.34	.40	.000	17.560	.125	+ .16
B	380	.....	6.0	56 0	2.96	9 25 3.00	.31	+ .020	17.539	.217	— .10
C	381	.....	6.4	14 5 26	1.87	59 50 57.60	.26	— .049	17.124	.150	.00
B	382	4,713	4.9	6 48	2.71	2 55 4.85	.34	— .020	17.061	.240	— .15
A	383	4,724	5.5	9 34	2.94	10 36 33.89	.25	— .153	16.933	.238	+ .11
A	384	4,741	4.1	12 17	2.28	46 35 3.56	.24	+ .151	16.804	.191	+ .04
A	385	4,742	4.5	12 20	2.13	51 51 55.60	.16	+ .085	16.801	.178	+ .10
A	386	4,753	5.0	14 39	2.84	16 48 6.57	.17	+ .058	16.691	.238	+ .03
B	387	.....	6.2	17 44	3.05	1 44 51.76	.34	— .475	16.539	.259	— .26
	388	4,808	3.8	27 11	2.59	30 50 44.36	.16	+ .125	16.058	.234	+ .04
B	389	.....	6.1	28 47	1.62	60 42 5.76	.20	+ .025	15.974	.152	+ .04
B	390	4,820	6.8	29 36	2.54	33 0 29.79	.26	+ .010	15.931	.232	+ .21
A	391	4,843	5.4	34 49	2.23	44 52 14.25	.21	— .049	15.649	.211	+ .05
B	392	.....	6.1	35 28	2.73	22 26 20.13	.34	+ .080	15.614	.257	— .23
B	393	4,870	5.7	39 33	2.33	40 54 58.60	.36	+ .020	15.386	.225	— .10
A	394	4,873	4.6	40 12	2.80	17 25 18.38	.27	— .052	15.350	.270	+ .02
B	395	.....	6.0	43 36	2.67	24 48 55.30	.34	+ .035	15.157	.262	.00
A	396	4,903	5.8	45 28	2.14	46 33 58.48	.20	— .098	15.050	.212	+ .02
B	397	4,906	5.7	46 14	2.37	37 42 55.09	.23	+ .100	15.005	.237	— .59
B	398	4,918	5.7	48 42	1.52	59 43 58.80	.19	+ .140	14.861	.156	.00
B	399	4,933	5.9	52 10	2.80	16 49 23.39	.30	.000	14.656	.285	+ .11
A	400	4,951	4.8	57 27	3.03	2 30 56.45	.25	+ .010	14.337	.315	+ .00
B	401	4,967	5.9	58 55	1.40	60 37 44.43	.32	+ .027	14.246	.150	— .33
A	402	5,031	5.2	15 9 58	2.51	29 33 55.16	.23	+ .033	13.549	.276	+ .04
B	403	5,033	6.2	10 16	2.16	42 34 24.70	.36	— .025	13.530	.239	.00
B	404	5,048	5.9	13 34	2 69	20 58 4.30	.33	— .012	13.316	.298	+ .10
A	405	5,061	5.7	15 40	2.48	30 0 29.01	.19	— .049	13.177	.280	— .01
A	406	5,072	5.4	17 29	2.40	33 19 12.91	.20	+ .004	13.057	.272	— .01
A	407	5,085	5.4	20 47	2.78	15 48 29.54	.21	+ .005	12.837	.317	+ .06
B	408	5,091	5.9	20 50	.99	63 43 37.51	.31	— .096	12.834	.116	+ .09
B	409	5,113	6.7	25 57	1.91	48 5 2.80	.33	— .010	12.486	.224	+ .40
A	410	5,119	5.9	27 24	3.08	— 0 49 10.85	.30	— .046	12.387	.359	+ .05
B	411	5,147	5.9	29 25	.84	64 34 19.31	.18	+ .078	12.248	.103	— .31
B	412	5,152	6.3	31 28	2.78	15 27 31.83	.26	+ .013	12.105	.328	+ .17
B	413	5,153	5.9	31 31	2.76	16 28 36.90	.33	.000	12.102	.326	+ .00
B	414	5,177	5.6	34 49	1.91	47 9 13.29	.31	— .133	11.871	.229	+ .11
A	415	5,214	4.6	41 12	2.91	7 41 30.21	.28	— .057	11.416	.356	+ .29
A	416	5,244	4.5	45 4	2.51	26 23 56.98	.21	— .078	11.136	.311	+ .02
B	417	5,248	5.7	45 1	1.44	55 42 27.24	.28	+ .010	11.139	.179	+ .06
A	418	5,259	4.7	47 10	2.26	35 59 33.04	.23	— .357	10.983	.280	+ .06
B	419	5,273	6.0	49 49	2.65	20 37 39.99	.34	+ .047	10.788	.330	+ .21
A	420	5,284	3.8	51 28	2.76	16 0 51.73	.13	—1.286	10.666	.343	— .03
B	421	5,298	5.8	51 52	2.02	42 52 49.22	.26	.000	10.636	.254	— .12
B	422	5,313	5.1	55 14	1.41	55 3 18.23	.26	+ .118	10.386	.183	— .23
A	423	5,338	4.4	59 26	1.87	46 20 11.81	.19	— .064	10.069	.239	+ .09
A	424	5,366	6.0	16 3 16	2.89	8 49 18.02	.30	— .012	9.778	.372	.00
A	425 prec	5,367	5.4	3 12	2.70	17 20 5.44	.18	— .011	9.783	.350	+ .06
A	426	5,388	4.0	5 22	1.89	45 13 5.51	.17	+ .043	9.617	.246	— .01
A	427	5,411	5.9	7 51	2.19	36 42 14.50	.24	— .040	9.426	.286	.00
A	428	5,448	6.5	13 55	2.48	26 9 35.06	.29	— .007	8.954	.327	+ .04

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	A R. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δ δ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
A	429	5,456	5.0	16 16 36	+3.03	1 16 58.91	±0.26	+0.035	—8.743	+0.404	+0.09
A	430	5,512	2.7	22 32	.81	61 45 31.15	.15	+ .050	8.273	.110	— .05
A	431	5,545	5.0	28 12	— .15	69 0 6.47	.14	+ .036	7.820	— .014	— .07
B	432	.....	6.1	32 14	+3.21	— 6 19 12.82	.40	— .016	7.493	+ .438	+ .02
A	433	5,596	5.0	35 49	1.63	49 8 22.74	.20	+ .021	7.201	.225	+ .16
B	434	.....	6.3	43 10	2.76	13 46 57.25	.29	— .016	6.597	.385	+ .05
B	435	5,647	5.9	44 36	2.77	13 27 0.63	.31	— .008	6.480	.385	— .23
A	436	5,693	5.5	48 52	2.27	31 52 50.33	.20	— .019	6.124	.319	— .03
A	437	5,731	3.7	56 9	2.29	31 5 8.41	.16	+ .032	5.514	.324	— .01
B	438	.....	5.9	17 1 44	2.54	22 13 50.04	.30	— .045	5.043	.362	+ .16
B	439	5,790	6.1	4 15	1.95	40 39 26.21	.22	— .031	4.830	.279	— .11
A	440	5,828	3.1	10 36	2.46	24 58 0.58	.18	— .153	4.289	.354	+ .02
A	441	5,847	4.8	13 57	2.07	37 24 17.73	.18	+ .084	4.003	.298	— .03
A	442	5,871	5.7	17 18	1.70	46 20 48.07	.19	+ .032	3.715	.245	+ .13
B	443	.....	5.8	19 41	2.68	16 24 2.76	.24	— .040	3.509	.388	— .36
B	444	5,917	5.7	21 18	.77	60 8 21.14	.27	+ .070	3.112	.112	+ .46
B	445	5,919	5.8	25 56	3.01	2 48 21.40	.25	+ .032	2.969	.436	— .30
B	446	5,944	5.9	29 42	2.70	41 19 11.89	.34	— .060	2.644	.277	— .29
B	447	.....	5.9	31 23	2.56	21 3 56.24	.34	— .024	2.498	.372	— .34
A	448	5,975	5.8	33 48	1.56	43 38 54.59	.22	+ .051	2.287	.228	+ .11
B	449	.....	6.2	38 27	2.73	14 20 38.94	.44	+ .010	1.863	.398	— .14
A	450	6,047	4.5	43 51	—1.08	72 12 6.18	.13	— .268	1.411	— .157	+ .02
A	451	6,078	3.5	53 5	+3.30	— 9 45 35.45	.13	— .105	.005	+ .482	+ .05
A	452	6,142	4.9	18 2 8	2.87	8 43 13.49	.28	+ .033	+ .187	.418	— .00
A	453	6,157	4.4	4 8	2.56	20 47 51.68	.25	— .013	.362	.374	— .08
B	454	6,185	6.0	8 19	1.22	54 15 15.70	.23	+ .245	.727	.177	— .10
B	455	6,203	5.4	12 17	1.86	42 7 21.39	.19	.000	1.074	.271	+ .01
B	456	6,218	6.0	13 41	1.92	40 53 39.26	.31	+ .079	1.197	.279	— .16
A	457	6,231	5.5	15 44	2.53	21 54 56.69	.26	— .051	1.375	.369	+ .01
A	458	6,241	6.1	17 38	2.50	23 13 50.46	.21	+ .082	1.542	.363	— .06
A	459	6,251	4.1	19 6	2.55	21 43 14.97	.15	— .257	1.069	.369	+ .03
A	460	6,268	5.0	20 40	1.97	39 26 54.48	.21	— .001	1.806	.286	— .08
A	461	6,297	4.4	22 18	— .85	71 16 48.57	.13	+ .021	1.949	— .125	+ .03
A	462	6,325	4.1	29 20	+3.26	— 8 19 9.02	.14	— .307	2.559	+ .472	+ .02
B	463	6,373	6.7	37 6	.73	60 36 38.83	.28	+ .053	3.231	.104	+ .47
A	464	6,379	5.1	39 23	3.03	1 57 1.32	.25	— .026	3.429	.434	+ .08
B	465	6,404	5.9	42 46	1.92	41 19 32.92	.28	+ .003	3.720	.273	+ .38
B	466	6,428	5.9	45 25	1.58	48 38 38.50	.19	+ .053	3.948	.225	.00
B	467	.....	6.1	47 5	2.75	13 50 12.52	.33	— .010	4.091	.390	— .52
A	468	6,438	5.3	47 40	2.56	21 17 43.02	.25	— .006	4.140	.364	— .02
A	469	6,466	4.4	50 44	2.10	36 45 42.14	.24	+ .020	4.402	.297	— .04
B	470	6,476	5.8	51 56	1.59	48 43 27.50	.34	— .133	4.506	.224	— .30
B	471	.....	5.8	55 21	2.44	26 4 53.11	.31	— .003	4.797	.342	— .31
A	472	6,528	3.1	19 0 27	2.75	13 42 11.54	.17	— .080	5.228	.386	— .04
A	473	6,552	5.4	3 42	2.94	5 54 13.83	.22	— .064	5.503	.410	— .03
A	474	6,583	5.4	9 38	1.13	56 40 30.88	.15	+ .045	5.999	.155	+ .02
B	475	6,602	5.8	13 9	2.54	22 49 52.35	.31	— .011	6.293	.349	— .25
B	476	6,624	5.4	15 21	1.38	40 9 40.49	.31	+ .005	6.475	.274	— .09
A	477	6,637	5.4	18 26	2.46	26 3 19.15	.21	— .013	6.729	.335	+ .05
A	478	6,662	4.9	20 7	.32	65 30 23.57	.15	+ .030	6.868	.041	+ .03
B	479	6,651	6.7	20 14	2.15	36 14 19.39	.44	+ .084	6.877	.292	— .39
A	480	6,674	4.5	24 13	2.49	24 26 47.26	.17	— .102	7.203	.338	— .06
A	481	6,679	5.4	25 1	3.14	— 3 0 48.78	.15	+ .004	7.269	.424	— .02
B	482	6,711	6.6	29 51	2.09	38 31 37.13	.32	+ .037	7.661	.280	— .23
B	483	6,723	5.8	31 32	1.55	51 0 17.87	.16	— .196	7.798	.205	— .17
A	484	6,734	4.7	33 33	1.61	49 58 15.82	.13	+ .239	7.960	.214	+ .08
A	485	6,739	4.4	35 16	2.68	17 45 56.89	.22	— .012	8.098	.355	+ .11
A	486	6,749	5.7	37 29	2.82	11 34 21.73	.21	+ .017	8.275	.372	+ .17
A	487	6,759	6.2	39 33	2.79	13 2 37.91	.32	— .017	8.439	.368	— .01
A	488	6,779	3.0	41 36	1.88	44 52 1.90	.15	+ .035	8.601	.363	+ .10
A	489	6,805	5.6	45 51	2.86	10 8 44.10	.24	— .149	8.936	.369	+ .10

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	A R. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δδ
				h. m. s.	*s.*	° ′ ″	″	″	″	″	″
A	490	6,824	5.3	19 47 55	+1.51	52 42 50.57	± 0.22	—0.075	+ 9.097	+ 0.190	+0.03
B	491	.....	6.3	48 0	2.99	4 7 16.09	.37	— .020	9.104	.385	+ .11
A	492	6,849	5.2	52 0	2.14	38 11 59.30	.19	+ .007	9.414	.274	.00
B	493	6,867	5.4	53 52	1.15	58 33 27.41	.19	— .018	9.558	.144	— .01
B	494	.....	5.8	54 21	2.38	30 41 27.44	.29	+ .006	9.595	.300	— .44
A	495	6,882	6.0	57 10	2.54	24 30 3.46	.14	— .001	9.811	.318	— .06
A	496	6,883	5.4	57 26	2.54	24 38 8.49	.23	+ .061	9.832	.318	+ .01
A	497	6,893	5.8	58 52	2.93	6 58 24.84	.21	+ .036	9.940	.317	+ .06
B	498	.....	5.8	20 0 22	2.35	31 54 45 38	.30	— .006	10.054	.293	— .08
B	499	6,924	6.3	2 54	1.36	56 1 44.30	.22	+ .068	10.246	.167	+ .40
B	500	6,930	6.1	3 23	.76	63 34 45.99	.32	+ .043	10.282	.091	+ .01
A	501	6,937	5.2	5 25	2.23	36 31 19.05	.21	+ .050	10.437	.272	+ .05
A	502	6,934	3.1	5 44	3.10	— 1 8 29.64	.12	+ .014	10.457	.380	— .00
A	503	6,944	6.0	7 29	2 51	26 9 23.08	.24	— .027	10.588	.308	— .08
A	504	6,952	5.1	9 17	2.78	14 52 8.06	.19	+ .081	10.721	.337	— .00
B	505	6,966	5.0	10 41	2.54	25 16 44.05	.31	— .015	10.825	.307	— .35
A	506	6,968	5.6	10 50	2.59	23 10 43.94	.31	— .014	10.836	.314	— .04
A	507	6,983	4.5	12 8	1.85	47 22 57.16	.19	— .008	10.931	.222	+ .04
A	508	6,990	var.	13 48	2.21	37 41 49.81	.25	+ .003	11.054	.264	+ .09
B	509	7,017	6.0	16 28	.61	66 30 23 27	.23	+ .244	11.247	.059	— .17
A	510	7,024	5.8	17 48	1.01	61 54 52.18	.20	+ .011	11.344	.117	— .08
A	511	7,022	2.6	18 21	2.15	39 54 40.33	.13	+ .020	11.383	.254	— .03
A	512	.....	6.2	19 7	3.06	0 43 9.27	.27	+ .006	11.439	.361	— .17
A	513	7,046	6.1	22 46	3.14	— 3 42 51.33	.20	— .005	11.699	.368	— .07
A	514	7,085	5.0	26 43	1.86	48 35 19.01	.19	+ .007	11.978	.212	— .01
A	515	7,098	4.6	27 46	1.02	62 37 51.79	.14	— .027	12.052	.113	+ .01
A	516	7,091	5.6	27 59	1.85	48 51 20.71	.20	— .040	12.067	.211	+ .09
A	517	7,107	4.7	30 16	2.20	14 18 6.46	.21	— .002	12.225	.319	+ .04
A	518	7,121	3.5	32 29	2.81	14 13 10 62	.17	— .031	12.379	.317	— .02
A	519	7,137	6.0	33 38	2.83	12 56 9.83	.27	— .006	12.458	.319	— .03
B	520	7,138	5.3	33 53	3.07	0 6 25.35	.22	— .010	12.475	.346	— .05
A	521	7,182	5.5	38 53	1.85	49 57 8.02	.19	— .002	12.815	.202	— .02
B	522	7,189	6.9	39 36	1.49	56 59 47.97	.31	— .022	12.862	.160	— .17
A	523 foll	7,200	3.9	41 39	2.78	15 44 6.87	.18	— .196	13.000	.304	+ .03
A	524	7,206	5.7	42 27	2.97	5 36 42.13	.19	+ .001	13.053	.324	+ .07
A	525	7,213	4.7	43 12	2.33	36 5 38.42	.17	+ .018	13.103	.252	— .02
A	526	7,246	4.9	47 30	2.57	26 41 33.80	.21	— .074	13.386	.274	.00
A	527	7,257	5.6	50 29	2.86	12 9 20.41	.21	+ .010	13.579	.301	+ .09
B	528	7,268	6.0	52 11	2.02	47 0 13.83	.33	+ .004	13.688	.210	— .03
B	529	7.278	5.8	53 0	1.90	50 18 50.00	.31	— .007	13.740	.195	.00
A	530	7.276	5.3	53 41	3.01	3 52 46.20	.21	— .139	13.783	.312	— .10
B	531	.....	6.0	55 32	2.74	18 54 35.19	.34	— .058	13.900	.282	— .29
B	532	7,310	5.8	56 46	1.47	59 0 59.25	.14	— .002	13.978	.148	+ .05
A	533 foll	7,302	6.4	56 53	2.96	6 45 19.94	.27	— .012	13.985	.306	— .04
B	534	.....	5.9	59 10	1.65	56 14 35.37	.20	— .006	14.128	.164	+ .13
A	535	7,333	4.0	21 1 0	2.18	43 29 49.08	.15	— .008	14.241	.218	+ .02
A	536	7,350	4.5	5 5	2.95	9 41 47.87	.21	— .167	14.491	.288	+ .03
A	537	7,351	6.1	5 16	2.95	9 36 30.92	.24	+ .019	14.502	.288	— .02
B	538	7,365	5.8	6 55	1.85	53 7 19.84	.23	— .014	14.601	.178	— .04
A	539	7,380	4.1	10 25	3.00	4 48 5.47	.14	— .078	14.810	288	+ .03
A	540	7,398	4.5	13 10	2.35	38 56 31.32	.21	— .013	14.971	.222	+ .08
B	541	7,402	5.0	14 25	2.26	43 29 29.52	.26	— .012	15.043	.209	+ .08
B	542	7,410	5.9	16 11	2.09	23 24 4.42	.28	— .130	15.145	.153	— .42
A	543	7,417	5.9	16 16	1.66	58 9 59.35	.20	— .024	15.150	.209	— .05
A	544	7,418	4.3	17 5	2.77	19 20 33.38	.19	+ .075	15.196	.257	+ .12
B	545	7,437	5.8	19 7	2.69	23 48 37.19	.28	+ .030	15.311	.247	— .29
A	546	7,440	5.9	19 39	3.01	— 4 1 11.00	.32	— .068	15.347	.288	— .30
A	547	7,482	5.6	25 41	1.71	66 20 16.04	.19	— .042	15.676	.100	— .04
B	548	.....	6.0	25 56	2.90	11 39 47.20	.24	— .004	15.690	.257	— .30
B	549	7,512	6.1	30 44	2.06	51 13 1.81	.27	— .008	15.948	.176	+ .29
B	550	7,528	5.9	33 59	2.79	19 46 41.55	.38	+ .006	16.119	.236	— .15
B	551	7,530	6.1?	34 3	2.00	53 33 21.21	.25	— .018	16.122	.167	— .01
A	552	7,542	5.1	35 1	1.61	61 35 41.19	.18	— .012	16.173	.132	— .09

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	A R. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δ δ
				h. m. s.	s.	° ′ ″	″	″	″	″	″
A	553	7,544	5.5	21 35 57	+2.35	42 47 0.76	±0.18	+0.011	+16.220	+0.194	+0.04
A	554	7,546	5.9	36 40	3.06	0 47 36.76	.26	— .020	16.257	.255	— .26
A	555	7,561	2.4	38 53	2.95	9 22 48.00	.17	+ .011	16.370	.241	.00
B	556 pr	7,566	5.6	38 58	2.47	37 47 21.21	.22	+ .001	16.374	.201	— .11
B	557	7.586	6.8	41 29	2.72	25 3 48.33	.38	+ .038	16.500	.218	+ .17
A	558	7,587	5.6	41 45	3.04	2 11 11.80	.25	— .010	16.514	.245	.00
A	559	7,605	5.9	44 14	1.77	60 11 20.53	.28	— .001	16.636	.137	— .03
A	*560	7,631	6.0	48 22	1.75	55 17 20.91	.32	— .025	16.835	.153	— .31
B	561	.....	6.4	54 25	1.53	65 38 27.51	.30	+ .003	17.117	.110	— .11
B	562	.....	6.8	54 38	1.54	65 37 24.50	.30	+ .006	17.127	.110	+ .20
A	563	7,660	5.9	55 34	3.07	0 5 10.85	.23	— .001	17.169	.224	+ .05
A	564	7,662	5.9	55 48	2.98	7 44 17.92	.28	+ .005	17.179	.217	— .02
A	565	7,672	4.7	57 44	3.10	—2 40 35.69	.21	— .002	17.266	.222	— .01
A	566	7,685	5.8	59 14	3.09	—1 25 42.43	.21	— .031	17.333	.218	+ .03
B	567	7,699	5.7	22 0 39	1.79	62 35 39.31	.27	+ .034	17.394	.123	+ .29
A	568 foll	7,700	4.6	0 40	1.73	64 6 5.57	.17	+ .065	17.395	.116	+ .03
A	569	7,693	5.7	0 41	2.71	28 26 21.53	.21	— .010	17.396	.189	+ .07
A	570	7,707	5.8	1 44	1.82	62 15 31.46	.17	+ .045	17.441	.124	+ .04
B	571	7,733	6.1	5 24	2.83	20 26 50.16	.28	— .008	17.598	.190	— .26
A	572	7,749	3.7	7 6	2.07	57 40 8.01	.15	— .006	17.669	.135	— .01
B	573	7,753	5.6	8 1	2.65	34 4 19.97	.30	— .041	17.706	.173	— .27
B	574	7,770	5.8	10 12	2.51	42 25 5.58	.25	— .020	17.795	.161	— .08
A	575	7,788	5.5	15 1	3.02	5 14 48.43	.20	— .005	17.986	.187	— .03
A	576	7,795	2.7	16 5	3.10	—1 55 53.27	.13	+ .017	18.026	.190	— .03
A	577	7,807	6.1	18 28	2.86	20 18 9.17	.20	— .019	18.117	.171	+ .13
A	578	7,837	5.7	23 37	1.91	64 34 53.59	.25	— .012	18.305	.106	+ .01
B	579	7,850	4.8	25 50	2.09	42 34 11.16	.27	— .002	18.384	.143	— .06
	580	7,868	4.0	29 48	3.08	—0 40 26.85	.12	— .053	18.520	.164	+ .05
A	581	7,893	5.9	33 39	2.90	18.57 48.21	.23	— .034	18.646	.148	+ .09
A	582	7,902	5.3	34 49	2.11	63 1 22.83	.18	— .039	18.684	.105	— .03
A	583	7,906	4.9	35 47	2.62	43 42 44.52	.22	— .016	18.714	.129	— .02
B	584	7,931	6.1	39 13	2.70	38 53 58.56	.25	— .030	18.820	.128	— .06
A	585	7,945	4.0	41 20	2.88	22 59 50.53	.15	— .004	18.883	.133	— .03
A	586	7,958	3.8	44 47	2.89	24 1 52.84	.16	— .042	18.983	.126	— .04
B	587	†7,963	6.5 / 7.0	45 20	2.01	67 59 50.52	.28	+ .069	18.998	.087	— .12
B	588	7,984	5.9	49 10	2.73	39 48 4.20	.30	+ .039	19.103	.113	— .70
B	589	7,986	5.9	49 35	3.11	—5 33 47.57	.22	.000	19.114	.129	— .03
A	590	7,993	6.5	51 42	3.10	—5 23 13.91	.17	+ .005	19.169	.124	+ .01
B	591	7,999	5.3	52 18	2.64	48 6 24.78	.24	— .030	19.184	.104	+ .02
B	592	8,013	6.7	54 44	2.44	59 14 9.34	.24	— .021	19.245	.091	— .04
A	593	8,031	4.6	58 23	3.05	3 14 18.50	.20	— .015	19.332	.110	.00
A	594	8,034	2.2	59 23	2.98	14 37 27.23	.16	— .030	19.355	.105	+ .07
B	595	8,077	6.4	23 5 40	2.34	66 39 21.14	.33	+ .022	19.492	.073	+ .36
B	596	8,094	5.4	10 0	3.09	—4 5 6.53	.28	+ .005	19.578	.089	— .07
A	597	8.105	3.8	11 34	3.10	2 41 31.76	.13	+ .017	19.607	.065	+ .04
B	598	.....	6.7	15 34	2.63	59 41 0.43	.33	— .031	19.677	.084	— .13
B	599	8,158	6.9	19 13	2.71	56 56 33.05	.23	— .013	19.736	.061	+ .05
A	600	8,162	5.5	20 2	2.64	61 41 23.38	.15	— .021	19.749	.058	+ .02
A	601	8,169	5.0	21 24	3.07	0 39 51.50	.15	— .102	19.769	.066	— .10
A	602	8,177	4.5	22 29	3.07	5 47 8.77	.18	— .045	19.785	.064	— .07
B	603	8,188	5.0	25 3	2.75	57 57 12.92	.28	+ .008	19.820	.052	— .12
A	604	8,195	5.7	25 59	2.94	38 38 34.48	.15	— .077	19.832	.054	+ .02
B	605	.....	6.1	28 30	3.00	20 14 40.94	.31	— .014	19.864	.052	— .24
B	606	.....	6.3	30 32	2.99	23 57 47.44	.31	— .023	19.887	.048	+ .46
A	607	8,229	4.1	32 50	2.93	42 40 12.20	.16	— .012	19.912	.042	.00
A	608	8,233	4.2	34 24	3.08	5 2 27.02	.14	— .443	19.928	.040	— .02
A	609	8,243	4.8	36 32	3.06	1 11 8.42	.19	— .137	19.948	.038	— .02
A	610	8,262	5.7	40 52	3.06	2 53 15.02	.18	— .023	19.983	.029	+ .08
A	611	8,279	5.8	43 35	2.89	61 36 51.20	.19	— .010	20.001	.022	.00

* Northern of two stars.

† Middle point between two stars nearly on same parallel.

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Mean declinations of latitude stars—Continued.

Class.	No.	B. A. C.	Mag.	AR. 1892.	Annual variation.	Declination, 1892.	Probable error, 1892.	Proper motion.	Annual precession.	Sec. var.	Δδ
				h. m. s.	*s.*	° ′ ″	″	″	″	″	″
B	612	8,280	6.5	23 43 36	+2.91	59 22 41.61	±0.23	—0.003	+20.002	+0.021	—0.01
A	613	8,295	5.9	46 26	3.07	2 19 47.80	.19	— .011	20.018	+ .018	.00
A	614	8,296	5.9	46 54	3.04	21 4 13.40	.26	— .018	20.020	+ .018	+ .10
B	615	.....	6.6	48 28	2.95	60 15 9.10	.25	— .006	20.027	+ .014	.00
B	616	8,315	7.0	50 6	3.06	7 37 20.34	.36	— .007	20.034	+ .010	— .04
B	617	8,322	5.8	51 42	3.00	55 6 17.11	.19	— .024	20.040	+ .037	— .31
A	618	8,330	5.0	53 32	3.01	55 9 13.44	.20	— .015	20.045	+ .004	— .04
B	619	8,345	6.0	56 12	3.05	41 45 56.51	.35	— .016	20.050	0.0	— .01
A	620	8,354	5.9	56 58	+3.06	7 53 8.39	.21	— .027	20.051	— .002	+ .01
B	621	.....	6.3	57 41	+3.07	16 57 8.86	.27	— .037	+20.052	— .004	— .36

Authorities for star catalogue.

First column: Number in catalogue.

Second column: Authority for proper motion.—"Brad. 11" denotes, for example, that the Proper Motions are from Auwers's Bradley, and that Bradley has eleven observations. "Piazzi and others" denotes that all available observations including and since Piazzi have been used. No statement in column 2 denotes in general that the old observations are rather scanty, chiefly zones.

Third column: Authorities used in the star places employed on the boundary.—They are abbreviations of the names of the observatories, with dates, in 1800-1900. "Yrnl." denotes Yarnalls' Catalogue, 3d edition. For Oxford, Greenwich, Washington, the observations not yet catalogued have been previously reduced to some mean epoch; for example, No. 602 (A. N. Am. Ephemeris star) was on revision brought up from Washington volumes for many years to the mean epoch 1876, 1884, and the Greenwich volumes for 1887-1890 were similarly treated.

Fourth column: Observations added on revision.

No.	Authorities for proper motion.	Authorities used for declinations in computing latitudes on the boundary.	Observations added on revision.
1	.....	Paris 60, Pulkova 55, Greenwich 80	
2	Bradley 7.....	Berlin Jahrbuch, Pulk. 55, Oxford 60, Cambridge, Rome, Pulk. 75, Grnwch. 80.	
3	Bradley 5.....	Pulk. 55, Paris 60, Glasgow, Brussels, Grnwch. 64,72,80, Leipzig, Leiden, Rome.	
4	.....	Pulk. 55, Brsls., Paris 75, Grnwch. 80, 89.....	
5	Bradley 5.....	Pulk. 55, Yarnall, Oxfrd. 60, Brsls., Grnwch. 72, 80, Cambr., Paris 75, Rome, Pulk. 75.	
6	Arglndr. 3—250...	Paris 60, 75, Bonn, Pulk. 62, 75, Yrnl., Grnwch. 64, Edinboro, Glsgw., Melbourne, Albany Zone, Gotha.	
7	Bradley 3.....	Pulk. 55, Paris 75, Grnwch. 64, 72, 80, Yrnl., Rome.....	
8	Bradley 3.....	Pulk. 55, 75, Grnwch. 60, 80, Brsls.....	
9	Brad. and later auths.	Ednbro., Brsls., Pulk. 55, Oxfrd. 70, Grnwch. 72, A. G. Christiania Z	
10	Brad. 5	Paris 45, 60, Grnwch. 60, 72, 80, 87, Pulk. 55, Cambr., Rome, A. G. Helsingfors, Gotha.	
11	Brad. 12	Pulk. 55, 62, 75, Grnwch. 60, 64, 72, 80, 88, Brsls., Yrnl., Paris 75, Glsgw., A. G. Albny., Rome.	
12	Brad. 1	Pulk. 55, Yrnl., Grnwch, 72, A. G. Helsingfors.....	
13	Brad. 4	Pulk. 55, Yrnl., Grnwch. 64, 72, 89, Paris 75, Rome.....	
14	Brad. 11	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Yrnl., Paris 60, 75, Glasgow, Grnwch. 80, 88, Auwers's 303 Stars Auwers's.	
15	Brad. 5	Pulk. 55, 75, Paris 60, Grnwch. 64, Brsls., Yrnl.	
16	Brad. 7	Pulk. 55, 75, Yrnl., Oxfrd. 60, Glsgw., Grnwch. 64, 80, Paris 75	
17	Piazzi and later auths.	Oxfrd. 65, Paris 75, Brsls., Glsgw., Grnwch. 88.....	
18	Piazzi and later auths.	Pulk. 55, Grnwch. 60, 80, Paris 75, Rome	
19	Brad. 5	Brln. Jrbh., Yrnl., Brsls., Pulk. 75, Rome, Paris, Grnwch. 80, 88	
20	Brad. 14	Pulk. 55, Paris 60, Yrnl., Grnwch. 64, 72, 80, 89, Brsls., Göttingen, Glsgw., Paris 75, Auwers's 303 Stars.	
21	Brad. 15	Brln. Jrbh., Yrnl., Oxfrd. 60, Paris 60, 75, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	
22	Brad. 5	Yrnl., Pulk. 55, Oxfrd. 60, Grnwch. 64, 88, Paris, Rome	
23	Brad. 6	Pulk. 55, Bonn, Grnwch. 64, 72, Lpzg., Leidn., Cambr., Rome, Paris 75....	
24	Brad. 1 and later..	Pulk. 55, Rome, Oxfrd. 70, Brsls., A. G. Helsingfors, Grnwch. 72, Berlin ..	

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Authorities for star catalogue—Continued.

No.	Authorites for proper motion.	Authorities used for declinations in computing latitudes on the boundary.	Observations added on revision.
25	Brad. 5	Pulk. 55, Grnwch. 60, 72, Lpzg., Leidn., Rome	
26		Pulk. 55, Yrnl., Edubro., Grnwch. 64, Brsls.	
27	Brad. 9	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome, Paris 75	
28	Brad. 3	Pulk. 55, Paris 60, Grnwch. 64, Glsgw. 75, Armagh	
29	Brad. 3	Pulk. 55, Paris 60, Grnwch. 64, 72, 80, Rome	
30	Brad. 3	Brln. Jrbh., Yrnl., Brsls., Cambr., Paris 75, Rome, Pulk. 75, Grnwch. 80, 88.	
31	Brad. 8	Pulk. 55, Yrnl., Grnwch. 60, 80, 88, A. G. Cambr., Paris 75, Rome, Gotha, Prime Vertical.	
32	Piazzi and others.	Pulk. 55, Oxfrd. 60, Brsls., Yrnl., Grnwch. 64, 72, Paris 60, 75, Glsgw., Rome, A. G. Albny., Gotha, Cincinnati.	
33	Brad. 10	Brln. Jrbh., Pulk. 55, 62, 75, Oxfrd. 60, Paris 60, 75, Yrnl., Brsls., Glsgw., Rome, Grnwch. 80, 89.	
34	Brad. 3	Pulk. 55, Oxfrd. 60, Grnwch. 64, Brsls., Paris 75, Rome, Cinn	
35	Brad. 4	Brln. Jrbh., Pulk. 55, 75, Rome, Grnwch. 80	
36	Brad. 1 and later.	Yrnl., Glsgw., Pulk., Brsls., Grnwch. 72, Cambr., A. G. Albny	
37	Brad. (Auwers). and others.	Pulk. 55, Yrnl., Oxfrd. 60, Brsls., A. G. Hlgfrs., Grnwch. 72, Rome, Brln	
38	Brad. 4	Pulk. 55, 75, Paris 60, Brsls., Glsgw., Grnwch. 64, 72, 80, Rome	
39	Brad. 1	Brln. Jrbh., Oxfrd. 60, Paris 60, Yarnl., Brsls., Cambr., Rome, Pulk. 75, Grnwch. 80, 88, Rome.	
40	Auwers's Bradley.	Pulk. 55, Grnwch. 72, A. G. Helsingfors, Pulk. 75	
41	Groombridge and others.	Pulk. 55 Brsls., Paris 75, Grnwch. 80	
42	Brad. 4	Pulk. 55, Paris 75, Grnwch. 72, Rome, Cambr., Ann Arbor, Grnwch. 80, 87.	
43	Brad. 3	Brln. Jrbh., Oxfrd. 60, 75, Paris 60, 75, Yrnl., Bonn, A. N., Washington 68, Boss, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 89, Glasgow 90.	
44	Brad. 3	Pulk. 55, 75, Oxfrd. 60, Paris 60, Grnwch. 64, 88, Brsls., Rome	
45	Brad. 3	Pulk. 55, 75, Yrnl., Oxfrd. 60, Paris 75, Brsls., Grnwch. 64, 72, 80, 88, Glsgw., A. G. Albny.	
46	Brad. 3	Pulk. 55, Oxfrd. 60, Grnwch. 64, 80, Brsls., Rome, Paris 75	
47	Brad. 4	Pulk. 55, Brsls., Grnwch. 64, 72, 80, A. G. Christiania., Rome	
48	Argind. and later auths.	Bonn, Brsls. A. G. Chrstana., Pulk. 75, Cinn	
49	Brad. 2	Pulk. 55, Grnwch. 64, Brsls., Rome, Paris 82, Grnwch. 87	
50	Brad. 5	Oxfrd. 60, Brsls., Pulk. 55, Grnwch. 64, 80, 89, Rome, A. G. Helsingfors	
51	Brad. 1	Pulk. 55, Grnwch. 64, Rome	
52	Brad. 7	Yrnl., Grnwch. 60, 64, 72, Oxfrd. 60, Pulk. 55, 75, Brsls., Göttingen, Cordoba, Pulk. 75, Paris 75, Glsgw., Karlsruhe.	
52*	Brad. 5	Pulk. 55, Paris 60, Oxfrd. 60, Brsls., Grnwch. 64, Yrnl., Auwers's 303 Stars	
53	Brad. 6	Pulk. 55, 62, Grnwch. 60, 64, 72, 80, 88, Yrnl., Brsls., Paris 75, A.G. Albny., Rome.	
54	Brad. 1	Oxfrd. 60, Pulk. 55, Grnwch. 64, Brsls., A. G. Helsingfors	
55	Brad. 5	Pulk. 55, Paris 60, 75, Grnwch. 64, Oxfrd. 65, Rome	
56	Brad. 11	Pulk. 55, 75, Grnwch. 60, 64, 72, 80, Paris 60, 82, Yrnl., Rome	
57	Brad. 5	Pulk. 55, Yrnl., Pulk. 62, Grnwch. 64, Göttingen, Paris 75, Cordoba, Karlsruhe.	
58	Brad. 4	Pulk. 55, Oxfrd. 60, Brsls., Grnwch. 64, Rome	
59		Pulk. 55, Paris 75, Grnwch. 80	
60	Brad. 15	Brln. Jrbh., Oxfrd. 60, Paris 60, Brsls., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80, Pulk. 90, 91.	
61		Pulk. 55, Grnwch. 60, 80, Paris 60, Glsgw., Rome	
62	Brad. 5	Pulk. 55, Grnwch. 60, 64, 72, 80, Brsls., Paris 60, Yrnl., Rome	
63	Brad. 5	Pulk. 55, Grnwch. 60, 72, 80, Yrnl., Brsls., Paris 75	
64	Brad. 7	Pulk. 55, 75, Oxfrd. 60, Brsls., Cambr., Rome, Brln., Paris 75, Grnwch. 80	
65	Brad. 7	Pulk. 55, Grnwch. 64, 72, Rome, Paris 75	
66	Brad. 4	Pulk. 55, Paris 60, 75, Grnwch. 64, 72, Oxfrd. 65, Yrnl., Glsgw. 90	
67		Pulk. 55, Grnwch. 64, Glsgw., Paris 75	
68	Brad. 8	Pulk. 55, 62, 75, Oxfrd. 60, Grnwch. 60, 64, 72, 80, Brsls., Yrnl., Paris 75, Glsgw., Rome.	
69	Brad. 4	Brln. Jrbh., Oxfrd. 60, Yrnl., Paris 60, 75, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	
70		Pulk. 55, 75, Grnwch. 64, 80, Brsls., Paris, 75, Glsgw., Cinn	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declinations in computing latitudes on the boundary.	Observations added on revision.
71	Brad. 13	Pulk. 55, A. G. Helsingfors, Rome, Brln., Grnwch. 80, Pulk. Prime Vertical.	
72	Piazzi, etc	Paris 60, 75, Brsls., Oxfrd. 64, Yrnl., Glsgw., Pulk. 75, Grnwch. 72, Gotha 85, A. N.	
73	Arglndr	Pulk. 55, 75, Kontgsb. 61, Bonn, Paris 75, Brsls. 65, Cordoba, Grnwch. 80, Karlsruhe.	
74		Grnwch. 60, 80, Pulk. 55, Brsls., Yrnl., A. G. Hlgfrs., Rome	
75	Brad. 12	Brln. Jrbh., Oxfrd. 60, Paris 60, 82, Brsls., Yrnl. Cambr., Rome, Pulk. 75, Grnwch. 80, 88.	
76	Brad. 5	Pulk. 55, Grnwch. 64, 89, Paris 75, Rome.	
77	Groombridge and others.	Pulk. 55, Rome, Paris 82, Grnwch. 80	
78	Brad. 6	Oxfrd. 60, Pulk. 55, Brsls., Grnwch. 64, 72, A. G. Christiania, Rome	
79	Piazzi and others.	Paris 60, Brsls., Pulk. 75, Cambr., Ann Arbor, Grnwch. 80	Pulk. 85.
80	Brad. 8	Brln. Jrbh., Pulk. 55, 62, 75, Oxfrd., Yrnl., Paris, 60, 75, Glsgw., Cambr., Rome, Grnwch. 80, 88, Auwers's 303 Stars.	
81	Brad. 7	Pulk. 55, 75, Paris 60, Grnwch. 60, 80, Oxfrd. 60, Brsls., Yrnl., Rome	
82	Brad 1 and later	Pulk. 55, Edubro., Boun, Brsls., Oxfrd. 75, A. G. Hlgfrs., Brln	
83	Brad. 6	Brln. Jrbh., Oxfrd. 60, Yrnl., Paris 60, 75, Brsls., Washgtn. (Boss), 68, Oxfrd. 75, Cambr., Pulk. 75, Rome, Grnwch. 80, 89.	
84	Piazzi and others.	Yrnl., Oxfrd. 60, Brsls., Grnwch. 64, 72, 80, Paris 60, Cambr., Rome, Pulk. 75.	
85		Yrnl., Pulk. 55, Edubro., Grnwch. 64, Armagh 75, Cambr., Paris 82	
86	Brad. 10	Brln. Jrbh., Oxfrd. 60, 75, Yrnl., Brsls., Cambr., Rome, Pulk. 75, Grnwch. 80.	
87	Brad. 3	Brln. Jrbh., Paris 60, 75, Brsls., Yrnl., Rome, Pulk. 75, Grnwch. 80, 88	
88	Brad. 5	Brln. Jrbh., Paris, 60, 75, Yrnl., Pulk. 62, 75, Brsls., Oxfrd. 70, Glsgw., Rome, Albny., Auwers's 303 Stars.	
89	Brad. 2 (confirmed)	Yrnl., Pulk, 55, 75, Glsgw., Oxfrd. 60, 75, Brsls., Grnwch. 64, 72, 80, Rome, Paris 75.	
90	Brad. 3	Yrnl., Pulk. 55, Oxfrd. 60, 75, Grnwch. 64, 72, 80, Brsls., Rome, Paris 75	
91	Piazzi, etc	Pulk. 55, Yrnl., Glsgw., Grnwch. 72, 80, Brsls., Paris 75, Gotha 85	
92	Brad. 3	Pulk. 55, Brsls., Grnwch. 72, 80, A. G. Helsingfors, Rome	
93	Brad. 17	Pulk. 55, Paris 60, 75, Rome, Berlin, A. G. Cambr., Grnwch. 80, 87	
94	Brad. 2 and later	Pulk. 55, 75, Glsgw., Grnwch. 64, 72, 80, 89, Brsls., Paris 75, Rome	
95	Brad. 3	Pulk. 55, 75, Paris 60, 75, Grnwch. 64, Brsls	
96	Brad. 4	Pulk. 55, Grnwch. 64, Paris 75, Brsls., Göttingen, Glsgw., Cordoba	
97	Brad. 4	Pulk. 55, Grnwch. 64, 89, Brsls., Göttingen, Paris 75, Auwers's 303 Stars	
98	Brad. 5	Pulk. 55, Oxfrd. 60, Paris 60, Brsls., Grnwch. 64, Yrnl., Rome	
99	Brad. 4	Brln. Jrbh., Yrnl., Oxfrd. 60, Brsls., Paris 60, 75, Cambr., Pulk. 75, Rome, Grnwch. 80.	Glsgw. 90.
100	Brad. 4	Yrnl., Pulk. 55, Grnwch. 64, 88, Brsls., Rome, Paris 75	Washgtn. Prime Vert.
101	Brad. 3	Pulk. 55, Paris 60, 75, Grnwch. 60, 64, 72, 80, 88, Brsls., Yrnl., Rome, Brln	
102	Brad. 3	Pulk. 55, Oxfrd. 60, Paris 60, 75, Brln	
103	Brad. 1 and later auths.	Pulk. 55, Yrnl., Glsgw., Grnwch. 64, Paris 60, 75, Brsls., Oxfrd. 75, A. G. Leiden.	
104	Brad. 9	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome, Grnwch. 80	
105	Brad. 3	Pulk. 55, 75, Oxfrd. 60, Paris 60, Grnwch. 64, 72, 80, 89, Rome	
106	Brad. 4	Pulk. 55, Paris 60, 75, Grnwch. 64, Rome	
107	Brad. 6	Pulk. 55, Paris 60, 75, Grnwch. 60, 64, 72, 80, 89, Brsls., Yrnl., Washgtn. 68 (Boss), Oxfrd. 75, Rome.	
108	Brad. 3	Pulk. 55, Paris 60, Grnwch, 64, 72, 80, 88, Rome	
109	Brad. 3	Pulk. 55, Brsls., Grnwch. 64	
110		Edubro., Brsls., Pulk. 55, Brln., A. G. Helsingfors	
111	Brad. 7	Pulk. 55, A. G. Hlgfrs., Berlin	
112	Brad. 5	Brln. Jrbh., Pulk. 55, 75, Yrnl., Brsls., Paris 60, Cambr., Rome	
113		Yrnl., Ednbro., Pulk. 55, Brsls., Brln., A. G. Helsingfors	
114	Brad. 6	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Paris 60, Brsls., Yrnl., Armagh 75, Grnwch. 80, 88, Rome.	
115	Brad. 3	Pulk. 55, Paris 60, Grnwch. 64, 72, 80, Brsls	
116	Brad. 4	Pulk. 55, Ednbro., Yrnl., Rome, Brln., Cambr., Grnwch. 80	
117	Brad. 5	Pulk. 55, Paris 60, 75, Grwnch. 64, Göttingen, Yrnl., Glsgw., Cordoba., Karlsruhe.	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declinations in computing latitudes on the boundary.	Observations added on revision.
118	Brad. 5	Pulk. 55, Grnwch. 60, 64, 72, 80, 88, Paris 60, 75, Oxfrd. 60, Brsls., Yrnl., Oxfrd. 72, Glsgw., Rome.	
119	Brad. 1 (Auwers) and Boss.	Brln. Jrbh,, Brsls., Yrnl., Cambr., Pulk. 75, Rome, Grnwch. 80, 88	
120	Brad. 3	Pulk. 55, Paris 60, Brsls., Grnwch. 64, 72, 80, 89, Yrnl., Brln., Rome, Glsgw.	
121	Brad. 3	Pulk. 55, Paris 60, Grnwch. 64, Oxfrd. 75, Brsls., Glsgw	
122	Brad. 8	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Yrnl., Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	
123	Brad. 4	Pulk. 55, Yrnl., Glsgw., Grnwch. 64, 72, 80, Rome, Paris 75	
124	Brad. 3	Pulk. 55, 75, Brsls., Glsgw., Paris 60, 75, Grnwch. 64, 72, 80, Rome	
125	Brad. 3	Pulk. 55, Oxfrd. 60, Grnwch. 64, Paris 75, Cordoba	
126	Brad. 3	Grnwch. 60, Pulk. 55, Oxfrd. 60, Glsgw., Paris 60, Brsls. Cordoba, Krlsrhe (85), Cinn.	Karlsruhe, 1889.
127	Brad. 2 and later auths.	Paris 45, Oxfrd. 60, Brsls., Pulk. 55, Grnwch. 64, 72, 80 Dorpat, Dorpat	
128	Brad. 5	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Paris 60, Brsls., Yrnl., Cambr., Rome, Grnwch. 80, 88.	
129	Brad. 7	Pulk. 55, Brsls., Grnwch. 64, A. G. Cambr., Paris 75, Grnwch. 88	Kazan Prime Vertical.
130	Groombridge and latr. auths.	Rome, Cambr., Paris 82	
131	Brad. 3	Pulk. 55, Paris 60, Brsls., Grnwch. 72, 80, 89, Rome	
132	Brad. 4	Grnwch. 60, 64, 89, Pulk. 55, 75, Rome	
133	Brad. 4	Brln. Jrbh., Pulk. 55, 75, Rome, Paris 75, Grnwch. 80	
134	Brad. 4	Pulk. 55, Grnwch. 60, 64, 72, 80, 89, Yrnl., Oxfrd. 60, Paris 60, Brsls., Glsgw., Rome.	
135	Brad. 6	Brln. Jrbh., Oxfrd. 60, Brsls., Paris 60, 75, Yrnl., Pulk. 75, Rome, Grnwch. 80, 88.	
136	Brad. 3	Pulk. 55, Oxfrd. 60, Paris 60, Brsls., Grnwch. 72, 80, Rome	
137	Brad. 4	Pulk. 55, Yrnl., Glsgw., Grnwch. 64, Brsls	
138	Auwers	Brln. Jrbh., Yrnl., Brsls., Cambr., Rome, Pulk. 76, Paris 75, Grnwch. 87, 89.	Kazan Prime Vertical.
139	Brad. 3	Yrnl., Pulk. 55, 75, Oxfrd. 60, Grnwch. 60,* 64, 72, Brsls., Paris 75, Rome Cinn.	
140	Brad. 25	Brln. Jrbh , Yrnl., Cambr., Rome, Pulk. 75, Paris 82, Grnwch. 80, 88	
141	Groombridge and others.	A. G. Cambr., Gotha, Pr. Vrtcl. A. N	
142	Brad. 5	Pulk. 55, 75, Brsls., Grnwch. 64, 72, 80, Glsgw., Paris 60, 75, Yrnl.	
143	Piazzi and others.	Grnwch. 60 rejected, about 5″ in error, Oxfrd. 60, Paris 60, 75, Brsls., Glsgw., Brln. 85.	
144	Groombridge and others.	A. G. Cambr., Göttingen, Prime Vertical, Paris 75	
145	Groombridge and others.	Paris 60, 75, Brsls., Rome, Glsgw., Grnwch. 80	
146	Piazzi and others.	Pulk. 55, A. G. Hlgtrs., Brsls., Glsgw., Rome, Grnwch. 80	
147	Brad. 4	Pulk. 55, 75, Paris 60, 75, Grnwch. 64, Glsgw	
148	Brad. 4	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Yrnl., Brsls., Cambr., Rome, Pulk. 75, Grnwch. 80.	Cambr. 93.
149	Brad. 11	Pulk. 55, 75, Grnwch. 60, 64, 80, Oxfrd. 60, Yrnl., Paris 60, Brsls., Rome	
150	Brad. 4	Pulk. 55, Paris 60, 75, Grnwch. 64, 72, 80, Glsgw., Rome	
151	Brad. 4	Pulk. 55, 75, Grnwch. 64, 72, 80, 87, 89, Rome	
152	Piazzi and others.	Paris 60, 75, Yrnl., Oxfrd. 70, Glsgw., Grnwch. 80, 89	
153	Brad. 12	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Yrnl., Paris 60, 75, Cambr., Glsgw., Rome, Grnwch. 80, 88.	Pulk. 85 not used as it was received too late.
154	Piazzi and others.	Pulk. 55, Glsgw., Oxfrd. 65, Paris 75, Grnwch. 80	
155	Brad. 5	Pulk. 55, Oxfrd. 60, Grnwch. 60, 64, 72, 80, Paris 60, 75, Brsls., Yrnl., Washgtn. 68 (Boss), Cambr., Rome.	
156	Brad. 3	Pulk. 55, Glsgw., Paris 75, Rome, Berlin., Grnwch. 80	
157	Brad. 27	Pulk. 55, Bonn, Grnwch. 64, 72, Lpzg., Leidn., Rome	
158	Piazzi and others.	Pulk. 55, Glsgw., Brsls., Paris 60, 75, Grnwch. 64, 72, 80, 87, Oxfrd. 75, A. G. Leiden, Rome.	
159	Brad. 4	Pulk. 55, Paris 60, Grnwch. 64, Brsls., Glsgw., Rome	

* The Greenwich result for 1860 for star 13.9 was corrected by means of a letter from Mr. H. P. Hollis of the Royal Observatory.

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declinations in computing latitudes on the boundary.	Observations added on revision.
160	Brad. 5	Pulk. 55, 75, Oxfrd. 60, Paris 60, Brsls., Cambr., A. G. Albany, Rome, Grnwch. 88, Cinn.	
161	Brad. 3	Pulk. 55, Grnwch. 60, 80, Glsgw., A. G. Albany, Rome	
162	Argelander	Pulk. 55, 71, 75, 81, Prime Vertical 91, Prime Vertical Cambr., Yrnl	Pulk. 68 Pr. Vrtcl.
163	Brad. 27	Pulk. 55, Rome, Brln., Paris 75, Grnwch. 80	
164	Groombridge and others.	Pulk. 55, Yrnl., Grnwch. 64, 88, Glsgw., Rome, Paris 82	
165	Brad. 5	Pulk. 55, 75, Oxfrd., Grnwch. 60, 64, Brsls., Göttingen, Paris 75, Yrnl., Rome, Krlsrhe.	
166		Paris 60, 75, Brsls., Oxfrd. 65, Glsgw., Gotha 85, A. N	
167	Argelander	Pulk. 55, 71, 75, Lpzg., Yrnl., Cambr., Rome, Grnwch. 80	
168	Piazzi and others.	Pulk. 55, 75, Yrnl., Oxfrd. 60, 75, Paris 60, 75, Brsls., Grnwch. 64, 72, Rome.	
169	Brad. 4	Pulk. 55, Grnwch. 60, 80, Paris 60, Brsls., Glsgw., Yrnl., Rome, A. G. Albny.	
170	Brad. 2 (confirmed)	Leidn., Rome, Pulk. 55, Yrnl., Grnwch. 64, Oxfrd. 75, A. G	
171	Brad. 5	Pulk. 55, Paris 60, 75, 82, Grnwch. 64, 72, 80, 89, Brsls., Glsgw	
172	Brad. and others.	Pulk. 55, A. G., Hlgfrs., Rome, Grnwch. 80	
173	Auwers	Brln. Jrbh., Yrnl., Brsls., Rome, Pulk. 75, Grnwch. 80, 89	
174	Brad. 13	Brln. Jrbh , Paris 60, Brsls., Cambr., Rome, Pulk. 75, Grnwch. 80, 89	
175	Brad. 5	Pulk. 55, Grnwch. 60, 64, 88, Paris 60, 75, Oxfrd., Glsgw., Brsls	
176	Piazzi and others.	Pulk. 55, Oxfrd. 75, Grnwch. 72, 80, 88, Brsls., Paris 75	
177	Groombridge and others.	Pulk. 55, Paris 60, 75, 82, Glsgw., Brsls., Rome	
178	Auwers	Berln. Jrbh., Oxfrd. 60, Paris 45, Pulk. 55, 75, Brsls., Yrnl., Cambr., Rome, Grnwch. 80, 87, 88.	
179	Brad. 2 (confirmed)	Grnwch. 60, 80, Pulk. 55, Göttingen Crdba., Oxfrd. 75, Paris 75, Krlsrhe 85, Grnwch. 80.	Karlsruhe.
180	Brad. 5	Grnwch. 60, 72, 80, Pulk. 55, 75, Yrnl., Brsls., Rome (Rutherfurd's photographs).	
181	Groombridge and others.	Pulk. 55, Paris 75, Grnwch. 80	
182	Piazzi and others.	Pulk. 55, 75, Grnwch. 60, 80, Oxfrd. 60, Brsls., Glsgw., Rome	
183	Piazzi and others.	Pulk. 55, 75, Paris 60, 75, Bonn, Oxfrd. 60, Yrnl., Glsgw., Brsls., Grnwch. 80, 88, Gotha 85.	
184	Brad. 3	Pulk. 55, Oxfrd. 60, Paris 60, 75, Grnwch. 64, Auwers's 303 Stars	
185	Brad. 30	Pulk. 55, 75, Oxfrd. 60, Grnwch. 64, 88, Brsls., Cambr., Rome, Gotha Pr. Vertical.	
186	Brad. 5	Berlin Jrbh., Yrnl., Brsls., Paris 75, Rome, Cambr. 75, Pulk. 75, Grnwch. 80, 87.	
187	Brad. 5	Berlin Jrbh., Yrnl., Brsls., Paris 60, Cambr., Rome, Pulk. 75, Grnwch. 80, 89.	
188	Brad. 3	Paris 60, Glsgw., Grnwch. 64, Brsls	
189	Brad. and others.	Pulk., Paris, Brsls., Grnwch. 72, 80, Glsgw	
190	Brad. 8	Brln. Jrbh., Oxfrd. 60, Yrnl., Paris 60, 75, 82, Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	
191	Brad. 4	Pulk. 55, Oxfrd. 60, Grnwch. 60, 80, Brsls., Rome, Paris 75	
192	Brad. 19	Berlin Jrbh., Paris 60, 82, Brsls., Yrnl., Cambr., Berlin, Pulk. 75, Rome, Grnwch. 80, 87.	
193	Brad. 2	Pulk. 55, Grnwch. 64, Washington 1870, Brsls., Rome, Glsgw	Cinn.
194	Brad. 8	Pulk. 55, Grnwch. 64, 72, 80, Glsgw., Cambr., Rome	Paris 70.
195	Brad. 23	Pulk. 55, Grnwch. 60, 80, Yrnl., Brsls., Pulk, 75	Paris 60, 75.
196	Brad. 3	Pulk. 55, Glsgw., Grnwch. 64, 72, 80, Rome	Paris 60, Gwch. 87, 88, Brln. 85.
197	Groombridge and others.	Pulk. 55, Paris 60, Brsls., Glsgw., A. G. Cambr., Rome, Gotha, Pr. Vertical, Grnwch. 80.	
198	Brad. 3	Brln. Jrbh., Pulk. 55, 75, Rome	
199	Brad. 17	Pulk. 55, Paris 60, 75, Rome, Brln., Grnwch. 80	
200	Brad. 6	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Yrnl., Brsls, Washgtn. 68 (Boss), Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 87, 88, 88, 89.	
201	Brad. 4	Brln. Jrbh., Yrnl., Brsls., Armagh, 75, Paris 75, Cambr., Pulk. 75, Rome, Grnwch. 80.	
202	Brad. 3	Pulk. 55, Oxfrd. 60, Yrnl., Grnwch. 64, 72, Brsls., Glsgw., Rome	
203	Brad. 3	Pulk. 55, Grnwch, 64, 80, Glsgw., Rome	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorites used for declination in computing latitudes on the boundary.	Observations added on revision.
204	Arglndr. (A. N.)	Pulk. 55, Brsls., Paris 60, 75, Glsgw., Rome, Grnwch. 89	
205	Brad. 5	Pulk. 55, Grnwch. 60, 64, 72, 80, Paris 60, 75, Brsls., Glasgow, Rome	
206	Piazzi and others.	Pulk. 55, Oxfrd. 75, Brussels, Grnwch. 72, 80	
207	Brad. 23	Brln. Jrbh., Pulk. 55, 75, Brsls., Cambr., Rome, Brln., Grnwch. 80	
208	Brad. 2 and others.	Pulk. 55, Grnwch. 60, 64, 72, Oxfrd. 60, Paris 60, 75, Brsls., Rome	
209	Brad. 5	Pulk. 55, Grnwch. 64, 72, 80, 87, Rome	
209[1]	Brad. 2	Pulk. 55, Grnwch. 64, Brsls., Cape 80, Rome	
210	Brad. 25	Pulk. 55, 75, Brsls., Rome, Berlin, A. G., Cambr., Paris 75, Grnwch. 80	
211	Brad. 8	Pulk. 55, Grnwch. 64, 72, Amgh. 75, Rome, Brln	
212	Brad. 4	Pulk. 55, Grnwch. 60, 80, Yrnl., Paris 60, 75, Glsgw., Rome	
213	Piazzi and others.	Pulk. 55, Grnwch. 60, 80, Paris 60, Glsgw., Brsls., Yrnl., Rome	
214	Brad. 17	Brln. Jrbh., Pulk. 55, 75, Brsls., Oxfrd., Paris 60, 75, Cambr., Rome	
215	Brad. 6	Brln. Jrbh., Oxfrd. 60, Yrnl., Glsgw., Cambr., Pulk., Grnwch. 80, 88	
216	Auwers, confrmd by Boss.	Washgtn. 68, Boss, Yrnl., Cambr., Pulk., Rome, Grnwch. 80, 88. (Brln. Jrbh. omitted.)	
217	Brad. 5	Pulk. 55, Grnwch. 60, 80, Brsls., Rome, Glsgw., Cape 80	
218	Brad. 5	Brln. Jrbh., Brsls., Cambr., Pulk. 75, Brln., Rome, Grnwch. 80	
219	Brad. 14	Pulk. 55, Grnwch. 64, Brsls., Rome, A. G. Helsingfors, A. G. Cambr., Kazan, Pr. Vertical.	
220	Brad. 6	Brln. Jrbh., Brsls., Pulk. 75, Grnwch. 80, Rome, Grnwch. 89, Auwers's 303 Stars.	
221	Brad. 3	Pulk. 55, Yrnl., Grnwch. 64, 72, 80, Brsls., Paris 75, Rome, Brln	
222	Brad. 2	Pulk. 55, Grnwch. 64, 72, 80, Paris 75	
223	Brad. 16	Brln. Jrbh., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80, 87	Paris 45, 60, 75.
224	Brad. 21	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Brsls., Cambr., Rome, Pulk. 75	
225	Brad. 12	Brln. Jrbh., Brsls., Paris 60, Cambr., Rome, Pulk. 75, Brln., Grnwch. 80	
226	Brad. 7	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Brsls., Yrnl., Glsgw., Cambr., Rome, Grnwch. 80, 89	
227	Brad. 16	Brln. Jrbh., Brsls., Cambr., Pulk. 75, Rome, Grnwch. 80	
228	Brad. 5	Pulk, 55, 75, Grnwch. 60, 64, 72, 80, Oxfrd. 60, Paris 60, 75, Yrnl., Brsls., Glsgw., Rome.	
229	Piazzi and later auths.	Pulk. 55, Paris 60, Grnwch. 60, 64, 72, 80, Brsls., Yrnl., Rome	
230	Piazzi, Groombridge, and others.	Pulk. 55, Yrnl., Brsls., Rome, Grnwch. 80, Cinn	
231	Piazzi and later auths.	Pulk. 55, 75, Brsls. 65, Glsgw., Grnwch. 80	
232	Brad. 3	Pulk. 55, Oxfrd. 75, A. G. Leidn., Grnwch. 72, 80, Rome, Paris 75	
233	Brad. 3	Pulk. 55, Oxfrd. 60, Grnwch. 64, Brsls., A. G. Leidn., Pulk. 75, Rome, Paris 75.	
234	Brad. 18	Pulk. 55, A. G. Hlgfrs., Rome, Brln., Grnwch. 87	
235	Brad. 4	Pulk. 55, Grnwch. 64, 72, 80, Oxfrd. 75, Rome, Paris 75	
236	Brad. 9	Brln. Jrbh., Yrnl., Paris 60, Brsls., Pulk. 75, Rome, Paris 75	
237	Brad. 19	Brln. Jrbh., Yrnl., Oxfrd., Paris 60, Washgtn. 68, Boss, Glsgw., Paris 75, Cambr., Pulk. 75, Rome, Grnwch. 80.	
238	Brad. 18	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome, Grnwch. 80, 89	
239	Brad. 5	Brln. Jrbh., Yrnl., Oxfrd. 60, Bonn, A. N. Washgtn. 68, Boss, Glsgw., Cambr., Pulk. 75, Grnwch. 80, 88.	Paris 60, 75.
240	Brad. 3	Brln. Jrbh., Pulk. 55, 75, Paris 60. Cambr., Rome, Grnwch. 80	
241	Brad. 4	Pulk. 55, Oxfrd. 60, Grnwch. 60, 88, Brsls., Paris 75, Rome, Cinn	
242	Radcliff and later	Pulk. 55, Ednbrg., Grnwch. 64, 72, 80, A. G. Christiania, Yrnl, Rome	Oxfrd 70.
243	Brad. 15	Paris 60, 75, Grnwch. 60, 64, 72, 80, 88, Brsls., Pulk. 75, Karlsruhe, Cape	Greenwich 89.
244	Brad. 9	Pulk. 55, A. G. Hlgfrs., Rome, Brln., Paris 75, Grnwch. 80	
245	Brad. 3	Pulk. 55, 75, Paris 45, 60, 75, Brsls., Washgtn. 70, Grnwch. 72, Amagh. 75, Rome.	
246	Brad. 3	Brln. Jrbh., Brsls., Cambr., Pulk. 75, Brln., Rome, Grnwch. 80, 88	Greenwich 89.
247	Brad. 2 and later	Grnwch. 60, 64, 72, 80, 88, Paris 60, 75, Brsls., Yrnl., Rome	
248	Brad. 19	Oxfrd. 75, Cinn., Brln. Jrbh., Yrnl., Paris, Cambr., Brsls., Rome, Pulk. 75, Grnwch. 80.	Pulk 55.
249	Brad. 2 and later	Pulk. 55, Grnwch. 60, 72, 80, Oxfrd. 60, Paris 60, 75, Brsls., Yrnl., Rome	
250	Brad. 15	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Bonn 66, Brsls., Yrnl., Oxfrd. 75, Cambr., Rome, Pulk. 75, Grnwch. 80.	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
251	Auwers	Pulk. 55, Grnwch. 64, Brsls., Yrnl., Glsgw., Cambr., Cape 80, Rome	
252	Brad. 4	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Paris 60, Rome, Glsgw., Grnwch. 80	
253	Brad. 12	Brln. Jrbh., Yrnl., Paris 60, 75, Brussels, Glsgw., Cambr., Pulk. 75, Cape 85, Rome, Grnwch. 80, 88.	
254	Brad. 4	Pulk. 55, Grnwch. 64, Brsls., Washgtn. 70, Rome	Grnwh. 90.
255	Brad. 11	Pulk., Grnwch. 72, 80, A. G. Helsingfors, Rome	
256	Brad. 3	Pulk. 55, Paris 60, Oxfrd. 60, Brsls., Grnwch. 64, Glsgw., Rome	Glasgow 90.
257	Brad. 5	Pulk. 55, 75, Oxfrd. 60, Grnwch. 64, 80, Brsls., Cambr., Glsgw., Rome, Cinn.	Glasgow 90
258	Brad. 10	Pulk. 55, Paris 60, Brsls., Yrnl., Brln., Rome	
259	Brad. 8	Pulk. 55, Paris 45, 60, Oxfrd. 60, Grnwch. 64, Rome, A. G., Cambr	
260	Brad. 9	Brln. Jrbh., Pulk. 55, 75, Cambr., Berlin Grnwch. 80	
261	Groombridge and later.	Pulk. 55, Edubro., A. G. Helsingfors	
262		Pulk. 55, 75, Oxfrd. 60, Grnwch. 64, 72, 80, A. G. Helsingfors, Brussels, Rome, Cinn.	
263	Brad. 5	Pulk. 55, Paris 60, Grnwch. 64, Cambr., Cape 80, Rome	
264	Brad. 3	Pulk. 55, Glsgw., Grnwch. 64, 72, 80, Paris 75, Brln., Rome	
264	Brad. 74	Brln. Jrbh., Oxfrd. 60, Paris 60, 75, Yrnl., Bonn 66, Washgtn. 68 Boss, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	Glsgw. 90. Grwch. 90.
265	Lalande and later.	Pulk. 55, Paris 60, 75, Grnwch. 80.	
266	Brad. 71	Brln. Jrbh., Oxfrd. 60, Brsls., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80.	Grnwh. 90.
267	Brad. 4	Pulk. 55, Washtn. 70, A. G. Helsingfors, Brln., Rome, Grnwch. 80	
268	Brad. 6	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Yrnl., Brussels, Cambr., Rome, Paris 75, Grnwch. 80.	
269	Brad. 4	Pulk. 55, Grnwch. 60, 80, Paris 60, Oxfrd. 75, Rome	
270	Brad. 6	Pulk. 55, Grnwch. 60, Brsls., Cambr., Paris 60, 75	
271	Brad. 2 and later.	Pulk. 55, Grnwch. 60, Brsls., Paris 60, Rome	Glsgw. 90 not used.
272	Brad. 2 and later.	Pulk. 55, 75, Oxfrd. 60, Yrnl., Grnwch. 64, 72, Brsls., Rome, Brln	
273	Brad. 3	Pulk. 55, 75, Oxfrd. 60, Brsls., Grnwch. 64, 72, 80, Glsgw	
274	Brad. 6	Pulk. 55, Grnwch. 60, 72, 80, 88, Paris 60, 75, Brsls., Rome	
275	Brad. 4	Pulk. 55, Grnwch. 60, 72, 80, 88, Yrnl., Paris 75, Rome	Glsgw. 90. Grnwh. 90.
276	Groombridge and later.	Pulk. 55, Grnwch. 64, Washgtn. 70, Brsls., Rome, Paris 75	Grnwh. 90. Cinn.
277	Brad. 4	Brln. Jrbh., Pulk. 55, 75, Amgh. 75, Paris 75, Rome, Cambr., Greenwich 80	
278	Brad. 5	Brln. Jrbh., Yrnl., Paris 60, 75, Glsgw., Rome, Pulk. 75, Cambr., Cape 80, Grnwch. 80.	Grnwh. 88.
279	Brad. 3	Pulk. 55, Yrnl., Grnwch. 64, 72, 80, Lpzg., Leidn., Rome, Washgtn. Pr., Vrtcl.	Greenwich 90.
280	Brad. 3	Pulk. 55, 75, Grnwch. 60, 80, Paris 60, 75, Brsls., Rome	Glsgw. 90.
281	Brad. 3	Pulk. 55, 75, Yrnl., Grnwch. 60, 72, 80, Paris 45, 60, 75, Brussels, Rome	
282	Brad. 3	Pulk. 55, Paris 60, Grnwch. 64, Glsgw., Rome, A. G. Albany	
283	Brad. 2 (Cnfrmd.)	Pulk. 55, Yrnl., Paris 45, 60, 75, Washgtn. 70, Grnwch. 64, 72, Brussels, Rome, Glsgw.	
284	Brad. 3	Paris 60, Pulk. 55, Brsls., Grnwch. 72, 80, A. G. Helsingfors, Rome	
285	Brad. 3	Pulk. 55, 75, Paris 60, Grnwch. 64, 72, Brln	
286	Lalande and later.	Pulk. 55, Amgh. 75, Paris 75, Cambr., Grnwch. 87	
287	Brad. 3	Pulk. 55, Yrnl., Paris 75, Brln., Grnwch. 87	
288	Brad. 5	Pulk. 55, Paris 45, 60, Yrnl., Grnwch. 60, 64, 72, 80, 88, Rome	
289	Lalande and later.	Pulk. 55, Paris 60, 75, Glsgw., Grnwch. 80	
290	Groombridge and later.	Pulk. 55, Brsls., A. G. Hlgfrs., Rome, Greenwich, 80	
291	Lalande and later.	Yrnl., Brsls., Paris 75, Cambr., Grnwch. 87	Greenwich 89.
292	Brad. 3	Pulk 55, Paris 45, 60, 75, Grnwch. 64, 80, Washgtn. 70, Brsls., Glsgw	
293	Brad. 13	Pulk. 55, Grnwch. 60, 64, 72, 80, 87, 88	Greenwich 89, 90.
294	Lalande and later	Pulk. 55, Gött., Crdba., Paris 75, Krlsrhe., Grnwch. 80	
295	Arglndr	Brln. Jrbh., Pulk. 55, 75, Yrnl., Rome, Grnwch. 80	
296	Brad. 3	Pulk. 55, Grnwch. 64, Glsgw., Paris 75	Glasgow 90.
297	Auwers's	Pulk. 55, Brsls., Göttingen, Cape 80, Grnwch. 80, Krlsrhe	Auwers's 303 Strs.
297'	Brad. 9	Paris 45, 60, Pulk. 55, Grnwch. 60, 64, 72, 80, Yrnl., Brsls., A. G. Chrstana., A. G., Hlgfrs., Rome.	Grnwh. 89, 90.
298	Brad. 4	Pulk. 55, Grnwch. 60, 64, 80, Yrnl., Rome., Paris 75	
299	Brad. 11	Brln. Jrbh., Yrnl., Paris 60, 75, Brsls., Rome, Pulk. 75, Cambr., Berlin, Paris, Grnwch. 80.	Grnwch. 90.

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
300	Brad. 3	Brln. Jrbh., Brsls., Glsgw., Rome, Pulk. 75, Grnwch. 80, 88	Grnwh. 90.
301	Brad. 5	Pulk. 55, 75, Grnwch. 60, 72, 80, 88, Paris 45, 60, 75, Rome	Grnwh, 89.
302	Piazzi and others	Pulk. 55, Paris 20, Grnwch. 64, A. G. Leidn., Glsgw	Oxfrd. 64, Wash. 75–6, Glsgw. 90.
303	Piazzi and others	Pulk. 55, Amgh. 75, A. G. Leidn	Grnwh. 90.
304	Brad. 19	Pulk. 55, 75, Yrnl., Grnwch. 60, 80, Brsls., Cambr., Rome	A. G. Camb. Kazan Pr. Vertical.
305	Brad. 4	Pulk. 55, Paris 60, Brsls., Grnwch. 64, Glsgw., Rome	Glasgow 90.
306	Brad. 9	Brln. Jrbh., Paris 60, 75, Yrnl., Brsls., Rome, Pulk. 75, Cambr., Grnwch. 80.	
307	Brad. 3	Pulk. 55, 75, Brsls., Paris 60, Washgtn. 70, Brln., Rome, Greenwich, 80	Brln. 1888 A. N. No. 2912.
308	Brad. 4	Brln. Jrbh., Pulk. 55, 75, Yrnl., Brsls., Cambr., Rome, Grnwch. 80	
309	Brad. 3	Pulk. 55, Göttingen, Brsls., Paris 75, Brln., Crdba., Cape 80, Grnwch. 80, 88, Krlsrhe.	Greenwich 90.
310	Brad. 3	Brln. Jrbh., Yrnl., Brsls., Pulk. 75, Cambr., Brln , Rome, Grnwch. 80	Greenwich 87, 89, 90
311	Lalande and later.	Pulk. 55, Yrnl., Paris 60, 75, Brsls., Armgh., Grnwch. 80	Greenwich 90.
312	Brad. 3	Pulk. 55, Paris 60, Brsls., Brln., Rome, Cambr., Grnwch. 80	
313	Brad. 9	Pulk. 55, Grnwch. 60, 64, 72, Glsgw., Brsls., Cambr., Rome	
314	Brad. 2	Pulk. 55, Grnwch. 60, 64, 80, Brsls., Yrnl., Glsgw., Amgh. 75, Rome, A. G., Albny.	Paris 60.
315	Brad. 27	Brln. Jrbh., Yrnl., Paris 60, Rome, Pulk. 75, Cambr., Grnwch. 80, 88	Greenwich 89.
316	Brad. 4	Pulk. 55, 75, Paris 45, Glsgw., Grnwch. 64, 72, 80, Brsls., Rome	
317	Brad. 4	Brln. Jrbh., Pulk. 55, 75. Yrnl., Paris 60, 75, Glsgw., Cambr., Cape 80, Rome, Grnwch. 80, 87, 88.	Greenwich 90.
318	Brad. 4	Pulk. 55, Grnwch. 64, Washtn. 70, Oxfrd. 70	
319	Groombridge and later.	Grnwch. 60, 64, 72, Brsls., Washgtn. 70, A. G. Hlgfrs., Rome	Kazan Pr. Vertcal.
320	Brad. 4	Pulk. 55, 75, Yrnl., Grnwch. 60, 80, Paris 75, Rome	
321	Brad. 3	Pulk. 55, Grnwch. 60, 80, Brsls., Glsgw., Rome	
322	Brad. 8	Brln. Jrbh., Yrnl., Paris 60, 75, Brsls., Cambr., Glsgw., Pulk. 75, Grnwch. 80, 88, Cape 80, Rome 80.	Greenwich 89, 90.
323	Piazzi, Groombridge, and later.	Brln. Jrbh., Pulk. 55, 75, Brsls., Yrnl., Cambr., Rome, Grnwch. 80	
324	Groombridge and later.	Pulk. 55, A. G. Hlgfrs., Grnwch. 80	
325	Brad. 3	Pulk. 55, Oxfrd. 60, 65, Grnwch. 60, 64, 80, Paris 60, 75, Yrnl., Brsls., Glsgw., Auwers's 303 Stars.	Greenwich 90.
326	Brad. 12	Pulk. 55, Paris 60, Grnwch. 60, 64, 72, 80, Brsls., Yrnl., A. G. Chrstana., Rome.	
327	Brad. 1 and latr. revisn.	Pulk. 53, Paris 60, Grnwch. 64, 72, Rome	
328	Piazzi and later	Pulk. 55, 75, Paris 60, 75, Yrnl., Brsls., Glsgw., Crdba., Grnwch. 80, Cape 80, Krlsrhe. 85.	Karlsruhe 87.
329	Brad. 8	Brln. Jrbh., Yrnl., Brsls., Wasgtn. 70, Paris 60, 75, Glsgw., Cambr., Rome, Pulk. 75, Grnwch. 80, 88.	Greenwich 89.
330	Brad. 12	Brln. Jrbh., Yrnl., Paris 60, 75, Glsgw., Cambr., Cape 80, Pulk. 75, Rome, Grnwch. 80, 87.	Greenwich 89, 90.
331	Brad. 16	Brln. Jrbh., Yrnl., Paris 60, 75, Glsgw., Rome, Pulk. 75, Grnwch. 80, 87	Grnch. 90.
332	Groombridge and later.	Pulk. 55, Yrnl., Paris 75, Brsls., Grnwch. 80	Greenwich 88.
333	Brad. 5	Pulk. 55, 75, Yrnl., Paris 60, 75, Grnwch. 64, Brsls., Oxfrd. 70, Rome	
334	Brad. 7	Brln. Jrbh., Paris 60, 75, Yrnl., Brsls., Cambr., Glsgw., Pulk. 75, Rome, Grnwch. 80, 87, 88, Cape 80.	Greenwich 90.
335	Brad. 4	Pulk. 55, Greenwich 64, Oxfrd. 70, Glasgow, Rome	
336	Brad. 3	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 70, Cambr., Rome, Greenwich 80	
337	Brad. 5	Pulk. 55, 75, Oxfrd. 60, Grnwch. 60, 72, 80, Brsls., Yrnl., Rome, A. G. Albany	Cinn. Grnwh. 90.
338	Brad. 4	Pulk. 55, 75, Oxfrd. 60, Grwnch. 60, 64, 72, 80, Brsls., Glsgw., Cambr., Rome	Grnwh. 89.
339	Groombridge and later.	Pulk. 55, Brsls , Grnwh. 80	
340	Brad. 2 (confrmd. on revisn.).	Berlin Jrbh., Pulk. 55, 75, Yrnl., Cambr., Glasgow, Rome	
341	Brad. 9	Berlin Jrbh., Pulk. 55, Pr. Vrtcl. 69, 75, Washgtn. 70, Pr. Vrtcl. 81, 90, Cambr., Rome.	Grnwh. 90.

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
342	Piazzi and later...	Pulk. 55, Brsls., Greenwich 64, 72, Oxfrd. 70, Armagh 75, A. G. Leiden, Cambr., Glsgw.	
343	Brad. 12.....	Pulk. 55, Yrnl., Greenwich 72, Rome.....	
344	Brad. 3.....	Pulk. 55, 75, Glsgw., Greenwich 64, 72, 80, Oxfrd. 64, Rome.....	
345	Brad. 6.....	Pulk. 55, Yrnl., Greenwich 60, 64, 80, 88, Brussels, Leiden, Leipzig., Cambr., Auwers's 303 stars.	Greenwich 90.
346	Groombridge and later.	Pulk. 55, Yrnl., Brussels, Rome, Grnwch. 80.....	
347	Groombridge and later.	Pulk. 55, Paris 64, Cambr., Rome, Grnwch. 80.....	
348	Brad. 4.....	Pulk. 55, Grnwch. 64, 72, 80, Brsls., Oxfrd. 70, Cambr., Rome.....	Grnwch. 90.
349	Brad. 4.....	Pulk. 55, Brsls., Greenwich 64, Armagh 75.....	
350	Lalande.....	Pulk. 55, A. G. Leidn., Grnwch. 80.....	
351	Brad. 1, cnfrmd. by Arglndr.	Brln. Jrbh., Oxfrd. 60, Pulk. 55, 75, Yrnl., Brussels, Cambr., Grnwch. 80..	
352	Brad. 3.....	Pulk. 55, Grnwch. 60, 80, 88, Cambr., Rome, materials do not agree very well.	Greenwich 90.
353	Brad. 4.....	Pulk. 55, Grnwch. 60, 64, 72, 80, Yrnl., Cordoba, Glsgw.....	Karlsruhe, Glasgow 90.
354	Brad. 8.....	Oxfrd. 60, Pulk. 55, Grnwch. 60, 64, 72, 80, Yrnl., Brussels, A.G. Christiania.	
355	Groombridge and later.	Pulk. 55, Rome, Grnwch. 80.....	
356	Brad. 3.....	Pulk. 55, Grnwch. 64, Oxfrd. 70, Yrnl. 70, Brussels, Rome, Glsgw.....	Grnwch. 89, 90.
357	Brad. 8.....	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Yrnl., Glsgw., Cambr., Greenwich 80, Auwers's 303 stars.	Greenwich 88, 89, Glsgw. 90.
358	Brad. 2.....	Pulk. 55, Grnwch. 64, 80, Washgtn. 70, Rome.....	Cordoba 85.
359	Piazzi and later...	Yrnl., Grnwch. 60, 80, Oxfrd. 75, Glsgw., Rome, Paris 83.....	
360	Groombridge and later.	A. G. Chrstna., Grnch. 80.....	
361	Brad. 7.....	Pulk. 55, Grnwch. 60, Brsls., Cambr., Rome, Gotha, Pr. Vrtcl. A. N.....	
362	Brad. 2.....	Pulk. 55, Grnwch. 60, 64, 72, 88, Yrnl., Glsgw., Karlsruhe.....	Cordoba, Grnwch. 90, Karlsruhe 89.
363	Piazzi, Groombridge, etc.	Pulk. 55, 75, Oxfrd. 60, Bonn, Brsls., Grnwch. 72, 80, A. G. Helsingfors, Rome.	Cinn.
364	Piazzi, Groombridge, etc.	Brln. Jrbh., Yrnl., Pulk. 55, 75, Cambr., Rome, Grnwch. 80.....	
365	Piazzi, etc.....	Oxfrd. 60, Brsls., Gott., Glsgw., Krlsrhe., Gotha A. N.....	Crdba.
366	Brad. 2.....	Pulk. 55, Grnwch. 60, 64, 72, 80, Brsls., Glsgw., Crdba.....	Grnwch. 89.
367	D'Agelet, Lalande, etc.	Ednbro., Brussels, Washgtn. 70, Oxfrd. 70, Armagh 75, Paris 83, Grnwch. 87.	
368	Piazzi, Grmbdg., etc.	Brln. Jrbh., Pulk. 55, 75, Yrnl., Bonn, Cambr., Rome, Grnwch. 80, Washgtn., Pr. Vrtcl. A. J.	
369	Arglndr.....	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome, Grnwch. 87, 88.....	Grnwch. 89.
370	Brad. 4.....	Pulk. 55, 75, Brsls., Grnwch. 60, 64, 72, 80, Washgtn. 70, Glsgw., Paris 82..	
371	Brad. 7.....	Pulk. 55, Grnwch. 60, 64, Yrnl., Brussels, Cambr., Grnwch. 72, 80, 87, 88, Auwers's 303 stars.	Grnwch. 89, 90.
372	Grmbrdg., etc....	Pulk. 55, Grnwch. 87, Brln. 88.....	
373	Grmbrdg., etc....	Pulk. 55, Washgtn. 70, Rome, Grnwch. 80.....	
374	Brad. 33.....	Brln. Jrbh., Yrnl., Oxfrd. 60, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, Gotha, Pr. Vrtcl. A. N.	
375	Brad. 2. cnfrmd. by Argir.	Pulk. 55, 75, Grnwch. 64, Yrnl., Bonn, Brsls., Rome, Glsgw.....	
376	Piazzi, etc.....	Pulk. 55, Kngsbrg. 60, Brsls., Grnwch. 80.....	Glasgow 90
377	Brad. 4.....	Pulk. 55, Brsls., Rome, Brln., A. G. Cambr., Grnwch. 80.....	
378	D'Agelet, Piazzi, etc.	Glsgw., Crdba., Krlsrhe.....	Brln. 85.
379	Grmbrdg., etc.....	A. G. Chrstana., Grnwch. 88.....	Greenwich 90.
380	No very old data..	Pulk. 55, 75, Ednbro., Glsgw., Amgh. 75, Cambr., Grnwch. 80.....	
381	Arglndr.....	A. G. Hlgfrs., Pulk. 75, Grnwch. 87.....	
382	Piazzi, etc.....	Pulk. 55, Grnwch. 60, 64, Glsgw., Rome, A. G. Albny.....	Greenwich 89.
383	Brad. 3.....	Pulk. 55, Oxfrd. 60, Grnwch. 64, 72, 80, Brsls., Glsgw., Rome.....	Cinn.
384	Brad. 1, cnfrmd., Boss.	Brln. Jrbh., Brsls., Pulk. 75, Cambr., Rome, Grnwch. 80, 87.....	Greenwich 90.
385	Brad. 4.....	Brln. Jrbh., Brsls., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80.....	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
386	Brad. 4	Pulk. 55, 75, Brsls., Grnwch. 64, 72, 80, 88, Washgtn. 70, Glsgw., Rome	Grnch. 90.
387	Lalande, etc	Pulk. 55, 75, Glsgw., A. G. Albny., Grnwch. 87	Cinn., Glsgw. 90.
388	Brad. 4	Brln. Jrbh., Yrnl., Cambr., Glsgw., Pulk. 75, Rome, Grnwch. 80, 87	Greenwich 89, Glsgw. 90.
389	Grmbrdg., etc	Brln. Jrbh. *cretd.* for precsn., Pulk. 55, 75, Cambr., Rome, Grnwch. 80 88	Greenwich 90.
390	Lalande, etc	Glsgw., Brsls., A. G. Leidn., Rome, Amgh. 75, Brln. 88	
391	Brad. 2	Brln. Jrbh., Pulk. 55, 75, Brsls., Cambr., Brln., Rome	
392	Lalande and others	Amgh. 75, Cambr., Pulk 75, Grnwch. 80	
393	Grmbrdg. and others.	Rome, Grnwch. 80	
394	Brad. 2	Pulk. 55, Yrnl., Grnwch. 60, 64, 72, 80, Rome	
395		Pulk. 55, 75, Grnwch. 80	
396	Brad. 2	Pulk. 55, 75, Brsls., Brln., Rome, Grnwch. 80	
397	Arglndr. revised	Pulk. 55, 75, Yrnl., Brsls., Grnwch. 64, 72, 80, Rome, Cinn	
398	Arglndr. revised	Brln. Jrbh. *cretd.*, Pulk. 55, 75, Oxfrd. 60, Brsls., Cambr., Rome, Grnwch. 80.	
399	Piazzi and others	Pulk. 55, Grnwch. 64, 72, 80, Brsls, Glsgw., Rome	
400	Brad. 2	Pulk. 55, Grnwch. 60, 80, 88, Glsgw., A. G. Albny., Rome	Greenwich 89.
401	Groombridge and others.	Bonn, Pulk. 55, 75, Brsls., Cambr., A. G. Hlgfrs., Rome, Grnwch. 80	
402	Brad. 2	Pulk. 55, Grnwch. 60, 72, 80, Brsls., Rome	
403	Groombridge and others.	Washgtn. 70, Rome, Grnwch. 88	
404	Piazzi and others	Pulk. 55, Yrnl., Grnwch. 60, 80, Brsls., Rome	
405	Brad. 3	Pulk. 55, 75, Yrnl., Grnwch. 64, 72, 80, 88, Brsls., A. G. Leidn., Rome	Greenwich 90.
406	Brad. 3	Pulk. 55, 75, Yrnl., Grnwch. 64, 72, 80, A. G. Leidn., Rome, Glsgw	
407	Brad. 2	Brln. Jrbh., Pulk. 55, 75, Yrnl., Brsls., Glsgw., Rome	Glasgow 90.
408		Pulk. 55, Brsls., Ednbro., A. G. Hlgfrs., Cambr., Rome, Grnwch. 80	
409	Groombridge and others.	Glsgw., Rome	Greenwich 87.
410	Brad. 2	Pulk. 55, Grnwch., Yrnl., Gtngn., Brsls., Glsgw	
411	Piazzi, Groombridge and others.	Pulk. 55, Brsls., Grnwch. 72, 80, 88, A. G. Hlgfrs., Cambr., Rome, Brln. 88.	Grnch. 89, 90.
412	Brad. 1 and later	Pulk, 55, Grnwch. 64, 87, Oxfrd. 75, Paris 83	Greenwich 89.
413		Pulk. 55, Brsls., Brln., Rome, Grnwch, 80	
414	Piazzi, Groombridge and others.	Pulk. 55, Brsls., Washgtn. 70, Amgh. 75, Rome, Grnwch. 80	Paris 82, Greenwich 90.
415	Brad. 2 and others on revision.	Pulk. 55, Grnwch. 60, 80, 88, Brsls., Rome	Grnch. 89.
416	Brad. 2	Pulk. 55, 75, Grnwch. 60, 64, 72, 80, Brsls., Yrnl., Rome	
417	Ednbro. 44 oldest authority.	Pulk. 55, Brsls., A. G. Hlgfrs., Rome, Grnwch. 80	Kazan Prime Vertical.
418	Brad. 2	Pulk. 55. 75, Yrnl., Grnwch. 60, 72, 80, 88, Oxfrd. 60, Brsls., Rome	Grnch. 90, Cinn.
419	Piazzi and others	Pulk. 55, Yrnl., Brsls., Glsgw., Grnwch. 72. 80, Amgh. 75, Rome	
420	Brad. 6	Brln., Jrbh., Oxfrd. 60, Brsls., Glsgw., Yrnl., Cambr., Pulk. 75, Cape 80, Rome, Grnwch. 80, 88.	Grnch. 89, 90.
421	Brad. 1 and later	Pulk. 55. 75, Yrnl., Brsls., Brln., Rome, Grnwch. 80	
422	Arglndr (revised)	Brln. Jrbh., Pulk. 55, 75, Washtn. 70, Brsls., Cambr., Rome, Grnwch. 80	Kazan Prime Vertical.
423	Brad. 7	Pulk. 55, 75, Grnwch. 60, 80, Brsls., Rome	
424	Brad. 1	Pulk. 55, Brsls., Grnwch. 64, Glsgw., Rome	
425	Brad. 3	Pulk. 55, 75, Yrnl., Oxfrd. 60, Grnwch. 64, 72, 80, 88, Washgtn. 70, Cambr., Glsgw., Rome.	Greenwich 89, 90.
426	Brad. 4	Brln. Jrbh., Oxfrd. 60, Brsls., Cambr., Pulk. 75, Rome, Grnwch. 88	
427	Piazzi and later	Pulk. 55, 75, Brsls., Yrnl., Green. 72, 80, Rome	
428	Brad. 2	Pulk. 55. Grnwch. 64, Brsls., Oxfrd. 70, 75, Glsgw	
429	Brad. 3	Pulk. 55, Grnwch. 60, 80, Brsls., A. G. Albny., Rome	Greenwich 89, 90.
430	Brad. 6	Brln. Jrbh., Yrnl., Oxfrd. 60, Cambr., Rome, Pulk. 75, Grnwch. 80, 87	Greenwich 90.
431	Brad. 10	Brln. Jrbh., Yrnl., Cambr., Pulk. 75, Rome, Grnwch. 80, 87	Greenwich 89, 90.
432	Lalande and others.	Pulk. 55, Amgh. 75, Crdba., Grnwch. 80	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
433	Brad. 6	Pulk. 55, 75, Grnwch. 60, 80, 88, Yrnl., Rome	Berlin 85, Greenwich 90.
434	D'Agelet, Struve, etc.	Pulk. 55, Ednbro., Brsls., Glsgw., Rome, Grnwch. 80	
435		Yrnl. (cretd.), Amgh. 75, Glsgw., Paris 82, Grnch. 87	
436	Brad. 2	Pulk. 55, 75, Yrnl., Brsls., Grnwch. 60, 72, 80, Paris 64, A. G. Leidn., Rome.	
437	Brad. 3	Brln. Jrbh., Oxfrd. 60, Brsls., Yrnl., Glsgw., Cambr., Rome, Pulk. 75, Grnwch. 80, 87, 88.	Greenwich 89, 90.
438		Pulk. 55, Amgh. 75, Cambr., Grnwch. 80, Ann Arbr., Washgtn. 82	Glasgow 90.
439	Groombridge and others.	Brln. Jrbh. *cretd.*, Pulk. 55, Yrnl., Cambr., Rome, Grnwch. 80	
440	Brad. 3	Brln. Jrbh., Yrnl., Oxfrd. 60, Brsls., Washgtn. 70. Rome, Pulk. 75	Greenwich 89.
441	Brad. 3	Yrnl., Pulk. 55, 75, Oxfrd. 60, Grnwch. 60, 64, Brsls. 65, Washgtn. 70, Rome, Grnwch. 80, Washington, Prime Vertical.	
442	Brad. 3	Pulk. 55, 75, Lpzg., Leidn., Grnwch. 72, Glsgw., Rome	
443	Piazzi and others.	Pulk. 55, Brsls., Cambr., Greenwich 80, Ann Arbor	Washington 81.
444	Radcliff and others	Grnwch. 60, 64, 72, 80, 88, Pulk. 55, Ednbro., Brsls., Rome, A. G. Helsingfors.	Greenwich 89, 90.
445	Piazzi and others.	Pulk. 55, Brsls., Glsgw., Yrnl., Rome, A. G. Albny., Grnwch. 80	
446	Groombridge and others.	Pulk. 55, Grnwch. 60, 64, Washgtn. 70, Glasgow, Rome	Glasgow 90.
447	Piazzi and others.	Pulk. 55, 75, Brsls., Grnwch. 80	
448	Brad. 10	Pulk. 55, Yrnl., Grnwch. 64, 87, 88, Brsls., Glsgw., Amgh. 75, Rome	Berlin 85.
449	Rumker, etc	Bonn, Cambr. 75, Ann Arbr, Grnwch. 80	
450	Brad. 13	Brln. Jrbh., Oxfrd. 60, Pulk. 55, (65 Vrtcl. Crcl.) 75, Yrnl., Brsls., Cambr., Grnwch. 80, 88, Rome.	Greenwich 89, 90.
451	Brad. 5	Brln. Jrbh., Yrnl., Brsls., Glsgw., Pulk. 75, Brln., Grnwch. 80, Auwers's 303 Stars.	
452	Brad. 4	Pulk. 55, Grnwch. 64, Washgtn. 70, Glsgw., Rome	Grnch. 90.
453	Brad. 3	Pulk. 55, 75, Grnwch. 64, Brsls., Rome, Paris 82	
454	Arglndr	Pulk. 55, 75, Oxfrd. 60, Brsls., Washington 70, A. G. Cambr., Rome, Paris 82, Gotha 85, A. N. Grnwch. 80.	Cinn.
455	Groombridge and others.	Brln. Jrbh. *corrected*, Pulk. 55, 75, Cambr., Rome, Greenwich 80	Greenwich 90.
456	Groombridge and others.	Pulk. 55, Grnwch. 60, 80, Oxfrd. 60, Brussels, Rome	
457	Brad. 4	Pulk. 55, Grnwch. 64, Brsls., Rome, Glsgw	
458	Brad. 1	Pulk. 55, Yrnl., Washgtn. 70, Brsls., Grnwch. 72, 80, Rome, Paris 83	
459	Brad. 5	Brln. Jrbh., Oxfrd. 60, Brussels, Cambr., Glasgow, Pulk. 75, Rome, Greenwich 80, Cape 84.	Grnch. 89, Glasgow 90.
460	Brad. 4	Pulk. 55, Grnwch. 64, 72, 80, Brsls., Rome	Berlin 84.
461	Brad. 8	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome, Grnwch. 80	Grnch. 89.
462	Brad. 12	Pulk. 55, 75, Oxfrd. 60, Brsls., Yrnl., Grnwch. 64, 80, Cambr., Glsgw., Crdba., Cape 84.	Cinn.
463	Groombridge and others.	Grnwch. 72, 80, A. G. Hlgfrs., Rome	Greenwich 89.
464	Brad. 4	Pulk. 55, Cape 60, Grnwch. 64, Brsls., Glsgw., Rome, A. G. Albany	
465	Groombridge and others.	Pulk. 55, Amgh. 75, Rome, Paris 82, Grnwch. 80	
466	Groombridge and others.	Pulk. 55, 75, Grnwch. 60, 80, Brsls., Rome, Brln. 88	
467		Pulk. 55, Glsgw., Amgh. 75, Cambr., Ann Arbr., Grnwch. 80, Washgtn. 83	Glasgow 90.
468	Brad. 4	Pulk. 55, Glsgw., Grnwch. 64, Brsls., Rome, Paris 83	
469	Brad. 4	Pulk. 55, Yrnl., Grnwch. 60, 80, Rome, Paris 83	
470	Piazzi, etc	Pulk. 55, Yrnl., Rome, Grnwch. 80	
471		Amgh. 75, Cambr., Grnwch. 80, Ann Arbr., Washgtn. 81 (Pulk. 55 used only for proper motion.)	
472	Brad. 6	Brln. Jrbh., Yrnl., Oxfrd. 60, Cape 60, 80, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80.	Greenwich 89, 90, Glsgw. 90.
473	Brad. 5	Pulk. 55, Yrnl., Glsgw., Brln., Rome, Grnwch. 80	
474	Brad. 39	Pulk. 55, 75, Yrnl., Grnwch. 60, 72, Leidn., Lpzg., A. G. Hlgfrs., Rome, Cambr.	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
475	.....	Pulk. 55, 75, Yrnl., Edubro., Brsls., Amgh. 75, Rome, Grnwch. 80.....	
476	Groombridge and others.	Grnwch. 64, 87, Glsgw., Rome.....	
477	Brad. 3.....	Pulk. 55, Grnwch. 64, 72, 80, Glsgw., Rome.....	Glsgw. 90, Greenwich 89.
478	Brad. 13.....	Grnwch. 60, 64, 72, 80, Pulk. 55, 75, Brsls., Yrnl., Cambr., Rome	
479	.....	Pulk. 55, Grnwch. 64, Brsls., Glsgw.....	
480	Brad. 8.....	Pulk. 55, 75, Grnwch. 60, 64, 72, 80, Oxfrd. 60, Cape 80, Rome.....	Greenwich 89, 90.
481	Brad. 4.....	Pulk. 55, Yrnl., Brsls., Glsgw., Grnwch. 80, Auwers's 303 Stars.....	
482	Groombridge and later.	Glsgw., Yrnl., Rome, Washgtn. 82, Grnwch. 87	Greenwich 89, 90.
483	Piazzi, Groombridge, and others.	Pulk. 55, Oxfrd. 60, Grnwch. 72, 80, Lpzg., Leidn., Brussels, Cambr., Rome, Ann Arbr., Washgtn. 83, Rauenburg.	
484	Brad. 48.....	Brln. Jrbh., Pulk. 55, 75, Oxfrd., Yrnl., Brsls., Cambr., Glsgw., Rome, Gotha 80, Prime Vertical, Grnwch. 80.	
485	Brad. 7.....	Pulk. 55, Yrnl., Grnwch., 72, 80, Glsgw., Rome	Grnch. 90.
486	Brad. 4.....	Pulk. 55, 75, Yrnl., Brsls., Glsgw., Brln., Rome, Grnwch. 80	Grnch. 90.
487	Brad. 4.....	Pulk. 55, Grnwch. 64, Brsls., Oxfrd. 65	Grnch. 89, 90.
488	Brad. 23.....	Brln. Jrbh., Yrnl., Cambr., Rome, Pulk. 75, Glsgw., Grnwch. 80.....	Grnch. 90.
489	Brad. 4.....	Pulk. 55, 75, Oxfrd. 60, Grnwch. 64, Brsls., Glsgw., Rome, Cinn	Vienna (Ottakring).
490	Brad. 47.....	Pulk. 55, Grnwch. 60, 80, Rome, Cambr., Paris 83.....	
491	Lalande and others	Glsgw., Amgh. 75, A. G. Albny.....	
492	Brad. 3.....	Pulk. 55, Yrnl., Grnwch. 64, 80, Glsgw., Rome, Washgtn., Prime Vertical A. J.	
493	Piazzi, Groombridge, and others.	Pulk. 55, 75, 90 (Pr. Vrtcl.), A. N. Rome, A. G. Helsingfors, Grnwch. 80...	
494	.....	Pulk. 55, Amgh. 75, A. G. Leiden, Cambr., Ann Arbr., Grnwch. 80.....	
495	Brad. 2.....	Yrnl, Grnwch. 60, Brsls., Pulk. 55, Rome, Grnwch. 80.....	Grnch. 89, 90.
496	Brad. 3.....	Pulk. 55, 75, Brsls., Yrnl., Grnwch. 64. 80, Glsgw., Rome.....	
497	Brad. 3.....	Pulk. 55, Yrnl., Grnwch. 64, Washgtn. 68 (Boss), Cambr., Rome, Glasgow	Washington 79, 85.
498	.....	Pulk. 55, A. G. Leidn., Amgh. 75, Cambr., Ann Arbr., Grnwch. 80.....	
499	Groombridge and later.	A. G. Hlgfrs., Brsls., Cambr., Pulk. 75, Rome, Grnwch. 87.....	Grnch. 90.
500	Groombridge and later.	Grnwch. 72, 80, A. G. Hlgfrs., Rome	
501	Brad. 3.....	Pulk. 55, Yrnl., Grnwch. 60, 72, 80, 87, Oxfrd. 60, Brussels, Rome.....	
502	Brad. 7.....	Brln. Jrbh., Brsls., Yrnl., Glsgw., Cambr., Pulk. 75, Greenwich 80, 88, Auwers's 303 Stars.	Greenwich 89, 90, Glsgw. 90.
503	Brad. 3.....	Pulk. 55, Grnwch. 64, 72, Cambr., Rome, Glsgw	
504	Brad. 3.....	Pulk. 55, 75, Grnwch. 60, 72, 80, Brsls., Yrnl., Cambr., Rome	Greenwich 90, Glsgw. 90.
505	.....	Pulk. 55, Grnwch. 60, 80, Bonn, Edubro., Amgh. 75, Brsls., Glsgw., Rome.	
506	Brad. 3.....	Pulk. 55, Grnwch. 64, Glsgw., Rome	
507	Brad. 20.....	Pulk. 55, Grnwch. 60, Lpzg., Leidn., Grnwch. 72, Rome.....	
508	Brad. 5.....	Pulk. 55, Oxfrd. 60, Yrnl., Greenwich 64, 88, Rome.....	
509	Groombridge and others.	Oxfrd. 60, Pulk. 55, 75, Bonn, Grnwch. 64, 72, 80, Brsls., A. G. Chrstana., Grnwch. 80, Rome.	Cinn.
510	Brad. 4.....	Pulk. 55, Yrnl., A. G. Helsingfors, Brln., Grnwch. 80.....	Grnch. 90.
511	Brad. 24.....	Brln. Jrbh., Oxfrd. 60, Brsls., Yrnl., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	Greenwich 89, 90.
512	Piazzi and later...	Pulk. 55, Brsls., Grnwch, 80.....	
513	Brad. 5.....	Pulk. 55, Grnwch. 64, 88, Brsls., Glsgw., Crdba., Krlsrhe	Grnch. 89, 90. Glsgw. 90.
514	Brad. 15.....	Pulk. 55, 75, Grnwch. 60, 72, Yrnl., Brsls. 65, Leidn., Rome	
515	Brad. 15.....	Brln. Jrbh., Brsls., Cambr., Rome, Pulk. 75. Grnwch. 80, 88.....	Grnch. 89.
516	Brad. 22.....	Pulk. 55, 75, Yrnl., Grnwch. 60, 80, Brsls., Rome. Glasgow	
517	Brad. 4.....	Pulk. 55, Grnwch. 60, 80, Oxfrd. 60, Brsls., Yrnl., Glsgw., Cambr., Rome...	
518	Brad. 3.....	Brln. Jrbh., Oxfrd. 60, Brsls., Yrnl., Cambr., Pulk. 75, Brln., Grnwch. 80, 88, Rome.	
519	Brad. 3.....	Pulk. 55, Grnwch. 60, 64, Glsgw., Rome.....	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary,	Observations added on revision.
520	Brad. 2 and later..	Pulk. 55, Oxfrd. 60, Grnwch. 64, Göttingen, Brussels, Yrnl., Glsgw., Rome, Krlsrhe.	
521	Brad. 23.....	Pulk. 55, Oxfrd., Grnwch. 64, 72, Lpzg., Leidn., Rome	
522	Piazzi and later..	Glsgw., A. G. Hlgfrs., Pulk. 75, Grnwch. 80	
523	Brad. 3.....	Brln. Jrbh., Oxfrd. 60, Yrnl., Brsls.. Cambr., Pulk. 75, Glsgw., Rome.....	Grnch. 89.
524	Brad. 3.....	Pulk. 55, 75, Brsls., Brln., Glsgw., Rome, Grnch. 80.....	
525	Brad. 6.....	Brln. Jrbh., Pulk. 55, 75, Yrnl., Brsls., Glsgw., Rome	
526	Brad. 3.....	Pulk. 55, Yrnl., Brsls., Glsgw., Grnwch. 72, 80, Rome.....	
527	Brad. 3.....	Pulk. 55, Grnwch. 64, 72, 80, 88, Brsls., Glsgw., Rome.....	Greenwich 90.
528	Brad. 1 and later..	Pulk. 55, Oxfrd. 60, Grnwch. 60, 64, 72, 80, Yrnl., Edubro., Brsls	
529	Groombridge and later.	Rome, Cambr., Gotha Pr. Vrtcl. A. N., Grnwch	
530	Brad. 4.....	Pulk. 55, 75, Oxfrd. 60, Brsls., Grnwch. 64, 80, Glsgw., Rome, A. G. Albny .	Greenwich 89, 90, Glsgw. 90.
531	.....	Pulk. 55, Grnwch. 80, Cambr., Ann Arbr.....	
532	Brad. 1 and later..	Pulk. 55 (62 Pr. Vrtcl), 75, 81 (Prime Vertical), 91 Pr. Vrtcl., Brussels, A. G. Hlgfrs., Grnwch. 72, Brln.	
533	Brad. 4.....	Pulk. 55, Grnwch. 64. Glsgw , Yrnl.. Rome.....	Glsgw. 90.
534	Groombridge and later.	Pulk. 55, 75, Brsls., A. G. Hlgfrs., Grnwch. 80	
535	Brad. 15.....	Brln. Jrbh., Rome, Cambr., Pulk. 75, Grnwch. 80	Grnch. 89, 90.
536	Brad. 5.....	Pulk. 55, Oxfrd. 60, Grnwch. 60. 64, Brussels, Yrnl., Cambr., Glsgw., Rome	Grnch. 89, Cinn.
537	Brad. 6.....	Pulk. 55, Oxfrd. 60, Glsgw.. Brsls.. Yrnl., Grnwch. 72, Brln.....	Glsgw. 90.
538	Piazzi and later ..	Pulk. 55, Brsls., Washgtn. 70, Glsgw., Lpzg., Leidn., Grnwch. 72, A. G. Cambr., Rome.	Glsgw. 90.
539	Brad. 5.....	Brln. Jrbh., Yrnl., Glsgw., Brsls., Pulk. 75, Rome, A. G. Albany, Grnwch. 80, Auwers's 303 Stars.	Grnch. 89. 90.
540	Brad. 3.....	Pulk. 55, Washington, Grnwch. 60, 72, 80, Rome, Cambr	Greenwich 89.
541	Piazzi, Groombridge, and others.	Pulk. 55, Yrnl., Glsgw., Grnwch. 64, 88, Pulk. 75, Rome.....	Greenwich 89.
542	.....	Ednbro., Brsls., Glsgw., Grnwch. 72, 80, Yarnall, Rome	Greenwich 90, Washington 75.
543	Brad. 12 (Sector obsrvns.).	Pulk. 55, 75, Yrnl., Edubro., Grnwch. 72, A. G. Helingfors, Rome.....	
544	Brad. 2 (cnfrmd.) .	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Glsgw., Brsls., Yrnl., Rome, Grnwch. 80.	
545	Piazzi and later...	Pulk. 55, Brsls., Yrnl., Grnwch. 72, 80, Glsgw., Rome	
546	Brad. 4.....	Pulk. 55, Grnwch. 64, Crdba., Glsgw. 70, rjctd	Karlsruhe, Glsgw. 90.
547	Brad. 9.....	Pulk. 55, Grnwch. 60, 64, 72, 80, A. G. Chrstana., Rome	
548	.....	Pulk. 55, 75, Bonn, Glsgw., Armagh 75, Cambr., Ann Arbr., Grnwch. 80..	
549	.....	Glsgw., A. G. Cambr., Pulk, 75. Rome	
550	.....	Yrnl., Ednbro., Oxfrd. 65, Brsls., Amgh. 75, Grnwch. 80.....	Glasgow 90.
551	Groombridge and later.	Brsls., Cambr., Rome, Pulk. 75, Grnwch. 88.....	Greenwich 89.
552	Brad. 5.....	Grnwch. 60, 72, 80, Pulk. 55, 75, Yrnl., A. G. Hlgfrs., Rome.....	Grnch. 89.
553	Brad. 5.....	Pulk. 55, 75, Grnwch. 60, 64, 72, 80, Yrnl., Glsgw., Rome.....	Grnch. 90.
554	Brad. 6.....	Pulk. 55, Grnwch. 64, Brsls., Glsgw., Rome.....	Glsgw. 90.
555	Brad. 3.....	Brln. Jrbh., Yrnl., Oxfrd. 60, Glsgw., Cambr., Pulk. 75, Rome, Grnwch. 80, 88.	Greenwich 89, 90, Glsgw. 90.
556	.....	Pulk. 55, Yrnl., Ednbro., Rome, Brln., Grnwch. 80, Palmero (reduced from 6 Pr. Vrtcl. obsrvns.).	
557	.....	Oxfrd. (rejected but retained on revision), Brsls., Grnwch. 64, Pulk. 55, Yrnl., Glsgw.	
558	Brad. 3.....	Pulk. 55, Yrnl., Grnwch. 64, Brsls., Rome, Glsgw., A. G. Albny	
559	Brad. 5.....	Pulk. 55, Grnwch. 64, Rome, A. G. Hlgfrs	Greenwich 89, 90.
560	Brad. 3.....	Pulk. 55, Yrnl., A. G. Hlgfs., Grnwch. 72.....	Kazan Prime Vertical.
561	Groombridge and later.	A. G. Chrstana., Grnwch. 80.....	
562	Groombridge and later.	A. G. Chrstana., Grnwch. 80.....	

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
563	Brad. 5.....	Pulk. 55, Glsgw., Grnwch. 64, Gtngn., Rome, Krlsrh	Glsgw. 90.
564	Brad. 3.....	Pulk. 55, Amgh. 75, Grnwch. 64, Glsgw., Rome	
565	Brad. 4.....	Pulk. 55, 75, Grnwch. 60, 64, Yrnl., Cambr., Krlsrh	Greenwich 89, 90, Glasgow 90.
566	Brad. 4.....	Oxfrd. 60, Bonn, Pulk. 55, Grnwch. 64, Gtngn., Yrnl., Glsgw., Crdba., Krlsrhe.	
567	Piazzi, Groombridge, and others.	Grnwch. 60, 72, 80, Oxfrd. 60, Pulk. 55, Brsls., Rome, A. G. Hlgfrs	
568	Brad. 7.....	Grnwch. 60, 64, 72, 80, Oxfrd. 60, 70, Pulk. 55, Brussels. Yrnl., Rome, A. G. Helingfors.	
569	Brad. 3.....	Pulk. 55, Yrnl., Glsgw., Grnwch. 64, 72, 80, Rome.....	Glsgw. 90.
570	Brad. 4.....	Brln. Jrbh., Pulk. 55, 75, Cambr., Rome	
571	Brad. 2 and later..	Pulk. 55, Grnwch. 64, 80, Glsgw., Rome	
572	Brad. 7.....	Brln. Jrbh., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80	Greenwich 89, 90.
573	Piazzi and later..	Yrnl., Pulk. 55, Oxfrd. 60, Brsls., Glsgw., Grnwch. 80.....	
574	Groombridge and later.	Glsgw., Rome, Pulk. 75, Grnwch. 80	
575	Brad. 4.....	Pulk. 55, 75, Grnwch. 60, 80, Brsls., Yrnl., Glsgw., A. G. Albny., Rome ...	Glsgw. 90.
576	Brad. 5.....	Brln. Jrbh., Oxfrd. 60, Yrnl., Brsls., Glsgw., Cambr., Pulk. 75, Grnwch. 80, Auwers's 303 Stars.	Grnch. 89, 90, Glsgw. 90.
577	Brad. 4.....	Pulk. 55, 75, Oxfrd. 60, Brsls., Yrnl., Grnwch. 72, 80. (Nos. 3744 and 3745 are the same star.)	
578	Brad. 4.....	Grnwch. 60, 72, Pulk. 55. Brsls., Yrnl., A. G. Hlgfrs	
579	Brad. 2 and later..	Pulk. 55, Glsgw., Grnwch. 64, Rome.....	
580	Brad. 10.....	Brln. Jrbh., Oxfrd. 60, Yrnl , Glsgw., Cambr., Pulk. 75, Grnwch. 80, 88	Greenwich 89, 90, Glsgw. 90.
581	Brad. 5.....	Pulk. 55, Grnwch. 64, 72, 80, Brsls., Rome.....	Greenwich 89, Glasgow 90.
582	Brad. 2 and Arglndr.	Brln. Jrbh., Yrnl., Pulk. 55, 75, Cambr., Rome, Greenwich 80	
583	Brad. 3.....	Pulk. 55, Grnwch. 60, 64, 72, 80, Oxfrd. 60, Brsls., Rome.....	Glasgow 90.
584	Groombridge and others.	Pulk. 55, 75, Glsgw., Rome, Grnwch. 80	
585	Brad. 5.....	Brln. Jrbh., Brsls., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80, 88, Glsgw.	Greenwich 89.
586	Brad. 4.....	Brln. Jrbh., Oxfrd. 60, Glsgw., Brsls., Yrnl., Cambr., Rome, Pulk. 75, Grnwch. 80.	Greenwich 89, 90.
587	Groombridge and others.	Brsls., A. G. Chrstana., Grnwch. 72, 80, Rome	
588	Groombridge and others.	Pulk. 55, Brsls., Grnwch. 72, 80, Rome.....	Greenwich 89, 90, Glsgw. 90.
589	Piazzi and others.	Pulk. 55, Yrnl., Brsls., Glsgw., Grnwch. 72, 80, Crdba., Krlsrhe. 85.....	Karlsruhe 89.
590	Brad. 4.....	Pulk. 55, Glsgw., Grnwch. 64, Yrnl., Auwers' 303 Stars	Glsgw. 90.
591	Groombridge and others.	Pulk. 55, Bonn, Brsls., Lpzg., Leidn., Glsgw., Grnwch. 72, 80, Rome	
592	Groombridge and others.	Pulk. 55, 75, 91 Pr. Vrtcl., Rome, A. G. Hlgfrs.....	Pulk. 62, Prime Vertical.
593	Brad. 8.....	Pulk. 55, 75, Oxfrd. 60, Grnwch. 60, 64, 80, Brsls., Yrnl., A. G. Albany, Rome.	
594	Brad. 6.....	Brln. Jrbh., Yrnl., Oxfrd., Glsgw., Cambr., Pulk. 75, Rome, Greenwich 80, 88.	Glsgw. 90. Greenwich 89.
595	Groombridge and others.	Brsls., Grnwch. 64, 72, A. G. Chrstana.....	
596	.....	Pulk. 55. Grnwch. 60, 72, 80, Glsgw., Yrnl., Brsls., Crdba., Krlsrhe. 85 rejected (1 obsrvn).	Karlsruhe 88.
597	Brad. 9.....	Brln. Jrbh., Oxfrd. 60, Yrnl., Glsgw., Cambr., Pulk. 75, Rome, A. G. Albny., Grnwch. 80, Auwers's 303 Stars.	Greenwich 89, 90, Glsgw. 90.
598	Groombridge and others.	Pulk. 55, 75, A. G. Hlgfrs	Pulk. 62, Prime Vertical, Grnch. 89.
599	Brad. 1 and others.	Yrnl., Pulk. 55, 75, A. G. Hlgfrs., Brln., Rome, Grnwch. 80.....	
600	Brad. 10.....	Brln. Jrbh., Pulk. 55, 75, Yrnl., Cambr., Rome, Grnwch. 80	Greenwich 90.
601	Brad. 11.....	Brln. Jrbh., Pulk. 55, 75, Oxfrd. 60, Yrnl., Glsgw., Rome, Grnwch. 80, Auwers's 303 Stars.	Pulk. 85, Greenwich 89, 90, Glasgow 90.

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Authorities for star catalogue—Continued.

No.	Authorities for proper motion.	Authorities used for declination in computing latitudes on the boundary.	Observations added on revision.
602	Brad. 8	Pulk. 55, 75, Grnwch. 60, 64, Yrnl., Brsls., Cambr., Rome	Washington 76, 84, Grnch. 89, Glasgow 90.
603	Piazzi, Groombridge, and others.	Pulk. 55, 75, Grnwch. 60, 64, Brsls., Glsgw., A. G. Hlgfrs., Rome	Greenwich 89.
604	Brad. 5	Pulk. 55, 75, Yrnl., Oxfrd. 60, Grnwch. 64, 72, 80, Glsgw., Brsls., Rome, Pr. Vrtcl. Wshgtn.	Greenwich 89.
605		Grnwch. 80, Cambr., Ann Arbr	
606		Pulk. 55, Grnwch. 80	Glasgow 90.
607	Brad. 5	Brln. Jrbh., Yrnl., Rome, Pulk. 75, Grnwch. 80	
608	Brad. 5	Brln. Jrbh., Yrnl., Oxfrd. 60, Cambr., Glsgw., Pulk. 75, Rome, Albny., Grnwch. 80, Auwers's 303 Stars.	Greenwich 89, 90, Glsgw. 90.
609	Brad. 6	Pulk. 55, Oxfrd. 60, Grnwch. 60, 64, 72, 80, Yrnl., Brsls., Glsgw., A. G. Albny., Rome.	Cinn., Greenwich 89, Glsgw. 90.
610	Brad. 8	Pulk. 55, Grnwch. 60, 64, 80, Oxfrd. 60, Brsls., Yrnl., Glsgw., Rome, A. G. Albny.	Glasgow 90.
611	Brad. 6	Pulk. 55, 75, Brsls., Grnwch. 72, 80, Rome, A. G. Hlgfrs	
612	Brad. 1 and others	Pulk. 55, 62 (Pr. Vrtcl.) 75, 91 Pr. Vrtcl., Yrnl., Ednbro., Brsls., A. G. Hlgfrs., Grnwch. 72, Brln.	
613	Brad. 6	Pulk. 55, Grnwch. 60, 64, 80, Oxfrd. 60, Glsgw., Yrnl., A. G. Albny., Rome	Glasgow 90.
614	Brad. 5	Pulk. 55, Grnwch. 60, Oxfrd. 70, Yrnl	
615	Auwers's Brad. least squares.	A. G. Hlgfrs., Pulk. 75, Brln	
616		Yrnl., Brsls., Glsgw., Pulk. 75	Greenwich 88.
617	Brad. 2 and others	Pulk. 55, A. G. Hlgfrs., Brln., Glsgw., Cambr., Rome, A. G. Cambr., Grnwch. 80.	Kazan Prime Vertical.
618	Brad. 6	Pulk. 55, Yrnl., A. G. Hlgfrs., Rome, Brln., A. G. Cambr., Grnwch. 80	Kazan Prime Vertical.
619	Groombridge and others.	Pulk. 55, Glsgw., Rome, Grnwch. 80	
620	Brad. 4	Pulk. 55, Greenwich 60, 64, 80, Glsgw., Yrnl., Pulk. 75, Rome	
621	Piazzi and others	Brussels, Cambr., Greenwich. 80, Ann Arbor	

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